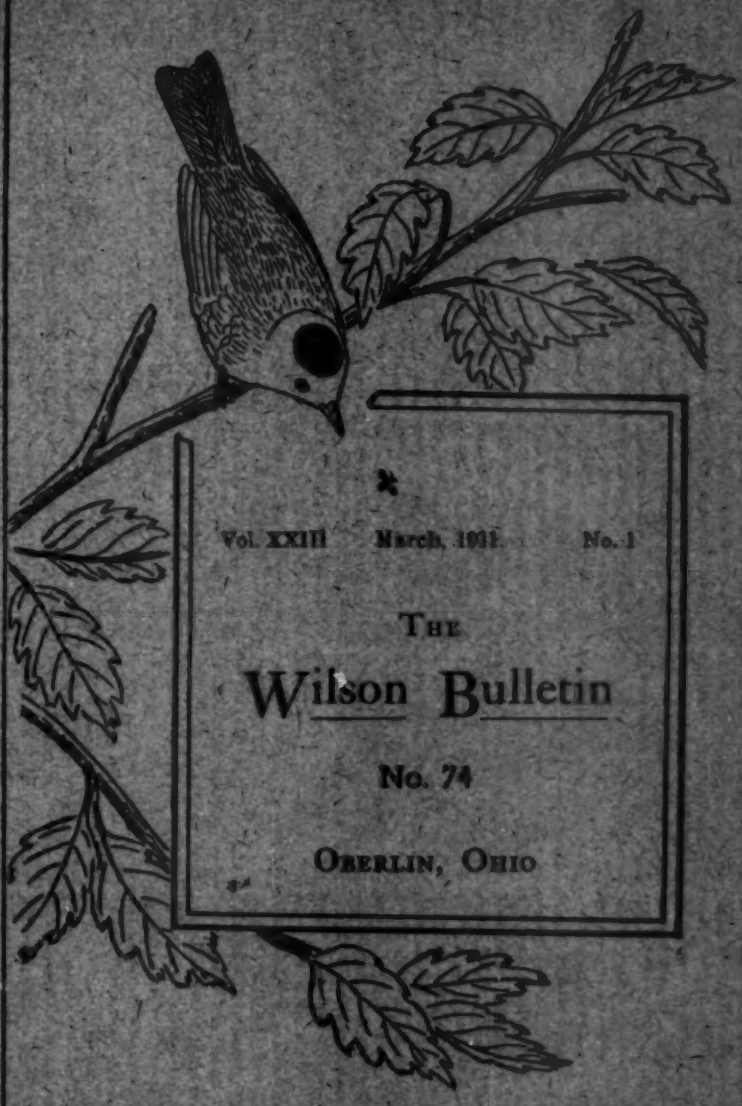

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The Wilson Bulletin

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THE WILSON BULLETIN

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SUMMER BIRD LIFE IN THE VICINITY OF HAVANA, ILLINOIS, IN ITS RELATION TO THE PROMINENT PLANT ASSOCIATIONS.

BY FRANK C. GATES.

EDITOR'S NOTE.—Upon the earnest solicitation of the author the simplified spelling has been allowed to stand in the body of the text, but the spelling of the vernacular names of the birds corresponds to the A. O. U. Check-List.

While the editor is personally in entire sympathy with the movement for reform in the spelling of English words, he does not believe that the movement has yet gained such impetus that he is warranted in adopting it in the Bulletin.

INTRODUCTORY.

While attending summer school during the latter part of June and the entire month of July, 1910, at the biological station of the University of Illinois, graduate work in ornithology was taken under Professor Frank Smith of that Institution. To him I am indebted particularly for helpful criticism of this paper.

LOCATION AND GENERAL DESCRIPTION OF THE REGION.

Havana, Illinois, is located on the east bank of the Illinois River, about forty miles south of Peoria, in the west central part of Illinois. Altho geografically located in this position

the region is not typical of central Illinois in general, for, as it is well known, the greater part of central Illinois is occupied by crops of one sort or another, but principally corn in black prairie soil.

This city, on the other hand, lies in about the center of the broad valley of a post-glacial stream, which was some fifteen to eighteen miles wide in this vicinity. The soil is either nearly pure sand or a sandy loam, yellowish in color, very different from the character of the average soil of Central Illinois. There are extensiv bottom lands in the immediate vicinity of the Illinois River of the present day which flows thru the center of this sandy area. In these situations there is usually a coating of muck laid down over the sandy bottom of the original stream.

The present river in this vicinity is about ⅛ miles wide, but taken together with the overflowed area it is from 0.5 to 3.5 miles from shore to shore. The bluffs which mark the original valley in post-glacial times are, of course, often farther apart. The water and the bottomlands furnish a typical avian environment, which is populated by its usual associations of birds. The east shore of the river is a modified dune surmounted by oak woods. The sandy uplands stretching back from this dune are quite largely under cultivation, but scattered here and there are areas of bunchgrass, blowouts, black oak and blackjack oak woods. Drainage is almost entirely subterranean and consequently creeks and swamps are a very minor part of the sum total of avian environments.[1]

[1] For a fuller and more extended discussion of the general character of this region, together with its history, consult the following:

Forbes, S. A. 1895. The Biological Station in the Biennial Report of the Director 1893-1894. Illinois State Laboratory of Natural History, pp. 14-26, with excellent illustrations.

Forbes, S. A. 1897. Biennial Report of the State Laboratory and Special Report of the University Biological Experiment Station 1895-1896, with map and illustrations.

Kofoid, C. A. 1903. The Plankton of the Illinois River 1894-1899, with introductory notes upon the hydrography of the Illi-

SOME GENERAL FACTORS.

Most important for maintaining an avian population is the food problem. This region is especially prolific in food supply for insectivorous birds. Insects are present in vast numbers, especially in the various bayous and lakes, which are part of the river system. Among the most plentiful insects were dragonflies, mayflies, beetles, flies, caddis flies, and chironomids.

An idea of the abundance of insects, especially of the mayflies, may be gathered from the fact that during their period of emergence, the adult mayflies (or as they are called in this region, "willow flies") collect so thickly around the lights of Havana during the night that the following morning these insects must be swept up and carted away to avoid the stench from their decaying bodies. On the morning of July 7, 1910, the second day of the emergence of *Hexagenia bilineata*[1] three piles of insects 3.5 feet in diameter and 1.5 feet high were seen on Main street in Havana. Around the lights at the foot of the bluff the street and part of the shore was carpeted with these insects to a depth of four to eleven inches.

Herbivorous birds do not fare so well in the region during summer. In but very little of the area can ruderal plants grow and form weed patches. Most of the plants whose seeds are eaten by birds matur their seeds during late summer and autumn and in consequence are of little attraction to summer birds. The town, itself, is surprisingly free from weed patches of more than a very limited extent. For this reason, perhaps, the English sparrows which are naturally attracted to the

nois River and its basin. Bulletin Illinois State Laboratory of Natural History, 6:98-251.

Hart, C. A. and Gleason, H. A. On the Biology of the Sand Areas 1907 in Illinois. Bulletin, Illinois State Laboratory of Natural History, 7:139-148.

Gleason, H. A. The Vegetation of the Inland Sand Deposits of Illi- 1910. nois. Bulletin, Illinois State Laboratory of Natural History, 9:23-174.

[1] Determination furnisht thru the kindness of Mr. Chas. A. Hart of the summer session staff.

dwelling places of man, not finding sufficient food there, flock in groups of 25 to 150 and invade the wheat and clover fields. It was noticed repeatedly that whenever English sparrows invaded crop lands it was virtually always in good sized flocks.

Aside from food there are other factors in the environment which favor an abundant bird population. The large number of protected nesting sites is an important factor in this region, which has seemed to increase the number of individuals within a given species. The general climate is favorable and the duration of the warm weather is such that two or even three broods may be raised each year.

Altho there would seem to be plenty of sustenance for birds of prey, their general absence was conspicuous. This is probably due to the many gunners in this region, both in and out of season, but particularly during the early spring. By the end of the hunting season the hawks that would have nested here have found nesting sites elsewhere and their occurrence in this vicinity seems to be merely accidental.

One might easily judge from the forgoing description of the region that, containing as many varied environments as it does, the bird population would be conspicuous both for number of species and for abundance of individuals. The region is indeed well populated with many individuals of a comparativly few species, but the total number of species is not so large as might be expected, since the region lies a little ways north of the northern limit of the southern avifauna and quite a ways south of the southern limits of a large number of northern species. However, the bird life is rich in comparison with the rest of central Illinois.

In this paper the plant associations form the basis for division. By such a method a much better idea of the relationships of the avifauna is brought out than an annotated list of the species, tho it is recognized that this analytical method does not necessarily yield the ecological avian associations. They are the product of a more thoro synthetic insight into avain relationships. It is highly probable that avian associations will be correlated with plant associations or groups of

them, altho that can not be deduced from this paper since the plant associations, themselves, formed the basis of division in obtaining the avian groups.

The plant life of the region is representativ of two biotic provinces, the southwestern prairie province and the deciduous forest province, the former of which will be taken up first.

THE PRAIRIE PROVINCE.

In this area the prairie province is represented, on the plant side, most extensivly by crops, fairly well by the bunchgrass and blowout associations and to a slight degree by eight or ten of the more hydrofitic associations along ditches and streams and at the heds of lakes.

The larger part of the available land is under cultivation in corn, rye, oats, wheat, or clover. Other open land is used for pastur and in it occur the bunchgrass associations. Where pasturing becomes too intensiv blowouts usually originate, develop and finally are recapturd by the vegetation. To a limited extent the prairie swamp associations are present along sloughs and ditches, of which there are very few in this region. The best developt examples of prairie swamp occur in two abandond and partly draind mill ponds in Quiver Creek, between the Quiver and Topeka stations of the Chicago, Peoria and St. Louis Railroad.

BUNCHGRASS PRAIRIES. In the xerofytic prairie areas there seems to be plenty of small animal life, but bird life is rather scarce. Only a few typical prairie birds are present, and most of these both in point of number of species and of individuals are sparrows. In order of abundance these are dickcissels, vesper sparrows and lark sparrows. They may be termd the dominant species of the bunchgrass prairie association. Nests of the vesper and lark sparrows were discoverd in the bunchgrass. The dickcissel is a typical prairie bird which, however, is much more frequently seen along the roadside on fence posts, wires or hedges, from which elevated positions it makes known its presence to any intruder.

The meadowlark, normally a dominant species on the prairies of Illinois, is, this year at least, merely a secondary species in this vicinity. It occurs very sparingly in the prairie swamp near Topeka, but prefers the crop areas to the bunchgrass prairies. On two occasions there was good evidence that the meadowlark in the bunchgrass was the western meadowlark (*Sturnella neglecta*), a thoroly typical form of such habitats, but as the birds did not sing and were very wary of approach, it was impossible to settle the question absolutely.

Aside from the dominant species which make up the greater number of individuals, there are but few secondary species occurring in the bunchgrass and blowouts. Of these the most frequent is the mourning dove, which is quite often flusht from the bunchgrass, but no chances were afforded of determining whether these birds were feeding or not. The remaining birds occurring in this association are more typical of other associations and their occurrence in the bunchgrass is more or less accidental. Such are the bob-whites, English sparrows and the crows, especially in the vicinity of the oak woods. Others such as the brown thrasher and mockingbird are purely accidental in such locations.

In the following tables the avian composition of each plant group is shown, together with the status of each bird in it. Preceding the name of the bird is a letter indicating the ecological status of the bird in that association.

d = of primary importance or abundance — a dominant species.
s = of secondary importance or abundance.
t = of tertiary abundance but frequently associated with successions in the plant associations.
a = of accidental occurrence.

Following the name of the bird is a symbol indicating the life activities and a statement of the abundance of the bird in the plant group under consideration. The summer life activities of the birds are classified under three heads, which are indicated as follows:

n = nesting activities,
f = feeding activities,
r = other activities, such as resting, sleeping, playing, etc.

SUMMER BIRDS OF THE BUNCHGRASS PRAIRIE ASSOCIATION.

s	Bobwhite		f	r small flocks
s	Mourning Dove		f	r twos or threes.
a	Kingbird		f	singly (2 records)
s	Crow		f	r singly
s	Meadowlark		f	r very few
d	Western Meadowlark	n	f	r pairs
d	Vesper Sparrow	n	f	r flocks
d	Lark Sparrow	n	f	r small flocks
t	English Sparrow		f	flocks
d	Dickcissel	n	f	r flocks or pairs
a	Mockingbird			r one record
a	Brown Thrasher		f	singly now and then.

SUMMER BIRDS OF THE CROP AREAS.

Bob-white.	Clover wheat
Mourning Dove.	Clover wheat corn rye oats
Crow.	wheat corn
Vesper Sparrow.	wheat rye
English Sparrow.	Clover wheat rye oats
Lark Sparrow.	wheat
Dickcissel	Clover wheat rye
Meadowlark.	Clover wheat

PASTURS AND MEADOWS. The development of either of these two types of vegetation is very meager in this vicinity and the characteristic birds—at best limited in numbers—are virtually indiscernable as such. Those birds that are usually to be found associated with these plant groups are the mourning dove, cowbird, meadowlark, English sparrow and the pigeon.

PRAIRIE SWAMPS. Prairie swamps are not of general occurrence in this territory as the rapid drainage in the sandy soil does not favor the concentration of water necessary to their development. Before the opening of the Chicago drainage canal such swamps were far more abundant, but most of them hav been converted into open water. On the plant side small prairie swamps can very easily be detected, but usually they are so limited in extent that they do not attract their normal bird population. Such areas form the minor avian envi-

ronments of Adams. (Isle Royal Report 1908:133.) Along Quiver creek in the vicinity of Topeka, however, there are two fair sized prairie swamps, which were a few years ago mill ponds. The principal plant associations represented are the *Scirpus validus* (Bulrush) association; the cattail, the arrowleaf, the *Calamogrostis* (a meadow grass), the *Lythrum* consocies of the blazing star prairie, and the redtop-bluegrass pastur associations. The birds noted there during the early part of July befor the return migration had set in were as follows: one pair of bobolinks, three pairs of meadowlarks, about fifteen pairs of red-winged blackbirds, a few indigo buntings and a half dozen short-billed marsh wrens. Additional species were noted toward the end of July after the beginning of the fall migration. All of these birds which occurred here during the summer proper are dominant species of this association where it occurs in other parts of the state. Altho they are not abundant in this locality, they illustrate a distinct avian group. The bobolink and short-billed marsh wren are index birds of this group. This is especially true of the bobolink, which is here nesting rather south of its usual southern limit. The other birds are as typical, but they are not so limited in distribution to this particular prairie swamp area.

SUMMER BIRDS OF THE PRAIRIE SWAMP.

d	Great Blue Heron		f	one record
s	Green Heron		f	one record
d	Bobolink	n	f	r one pair
d	Red-wing Blackbird	n	f	r 15 pairs, later large flocks
d	Meadowlark	n	f	r few
s	Bronzed Grackle		f	r flocking with the redwings preliminary to the fall migration.
d	Indigo Bunting	n?f		r few
t	Dickcissel			r two records
t	Northern Yellow-throat		f	r one record
d	Short-billed Marsh Wren	n	f	r half a dozen birds
a	Robin		f	r one record

THE FOREST PROVINCE.

The associations of the deciduous forest province cover more than half of the area in the vicinity of the Biological Station. This province falls naturally into two groups of associations, those of the bottomlands and those of the uplands. The former is composed largely of hydrofytic plants and the latter of those of mesofytic and xerofytic tendencies.

AQUATIC ASSOCIATION. Arranging the associations in a normal genetic series, the aquatic association comes first into consideration. It consists of the waters of the Illinois River, together with the numerous lakes, bayous and creeks that drain directly or indirectly into it. The area is relativly very large in comparison to the number of birds by which it is populated during the summer. Even as it is, many of its present members are purely accidental, as it is not uncommon for wounded migrating ducks to remain in the lakes all summer. The population at present is very much smaller than formerly, for which hunters are mostly responsible.

Birds which are found associated with the water may be divided into two groups, those that are naturally in or on the water and those that are usually in the air above it. Treating of those whose essential element is water rather than air alone, the double-crested cormorant and the pied-billed grebe were the only members noticed breeding within the vicinity, altho the wood duck is known to hav bred there in 1909. The breeding range of the cormorant, as usually given, is from Minnesota northward. This remarkable southern extension of this bird's breeding range is described in detail by Frank Smith (Auk, 1911: 16-19).

Other members of this group which are very irregular in number and distribution are the ducks, of which the following were noted during July, 1910: a red-breasted merganser, mallard, lesser scaup and a blue-winged teal. Altho occasionally seen in the open river they are more abundant in the north end of Thompson's Lake. This region is south of the present

limits of the breeding ranges of most of our aquatic birds and this explains the absence of many water birds which one might well expect to find in such country as this.

Speaking in the strict sense of the term, the summer's work revealed but two members of the group of aquatic birds which spend most of their time in the air over the water, namely, the black and the common terns, of which the former was by far the more abundant. Apparently they spent most of their time in the northern part of Thompson's Lake, but two or three birds were liable to be seen almost any time in the vicinity of the Biological Station, over Flag Lake or the Illinois River and following every brisk northerly wind flocks of 25-40 birds would come down the Illinois River to Havana Lake.

Aside from the strictly aquatic birds which hav been treated of above, there are several other birds whose association with water is determined by the location of their food. But one of these birds, the kingfisher, obtains food in the water. The others, all of which are insectivorous birds, obtain their food by flying back and forth over the water. In respect to their other activities these birds are, however, land birds. The swallows are the most conspicuous members of this group. Little need be said of these birds as they are insectivorous and must obtain their food from the haunts of the insects. The presence of grackles and red-headed woodpeckers in the group seems somewhat peculiar to one used to them in other portions of central Illinois. The red-headed woodpecker belongs rather to the bottomland forests, but these birds were quite often seen flying back and forth over the water and were observd catching insects with an agility that would do credit to one of the flycatchers. The grackles were quite fond of flying back and forth across the river, especially in the early dawn and in the twilight. They did not display markt flycatching ability, but they took what insect food they could obtain in flying in a course which was not characterized by flycatcher-like antics.

SUMMER BIRDS OF THE AQUATIC ASSOCIATION.

Normal or strictly aquatic species—

Water Inhabitants—				
d Pied-billed Grebe	n	f	r	one pair in 1910.
d Double-crested Cormorant	n	f	r	Two flocks of 7 and 26 birds in Mud Lake and in Flag & Thompson's Lakes respectively.
(d Wood Duck	n	f	r	irregularly, not present in 1910)
d Red-breasted Merganser		f	r	two birds seen three times.
d Mallard		f	r	one seen a few times.
d Lesser Scaup Duck		f	r	one bird seen twice
d Blue-winged Teal		f	r	one bird seen once.
Air Inhabitants—				
d Black Tern	n	f	r	a colony of about 70 birds
d Common Tern	n?	f	r	a few birds with the above.

Semiaquatic species—

Food Submerged		
d Belted Kingfisher	f	common
Food above water		
d?Mississippi Kite		two birds in the air over the Illinois River, June 29, 1910.
s Red-headed Woodpecker	f	several
s Nighthawk	f	scarce
d Chimney Swift	f r	not common
s Kingbird	f	one pair
s Phœbe	f	common
s Bronzed Grackle	f	common
s Purple Martin	f	scarce
d Cliff Swallow	f	rare
d Tree Swallow	f	abundant
d Bank Swallow	f	few
a Robin	f	scarce
a Bluebird	f	rather scarce

THE STRAND ASSOCIATIONS.

The strand is not well represented in this region on account of the persistent high water in the Illinois River and adjacent lakes, following the opening of the Chicago drainage canal. Wherever it occurs it is of either a muddy or sandy textur.

The sand strand that was under observation formed the east bank of Quiver Lake and parts of the shore of Lake Matanzas. It was not extensiv in area, even tho it was developt linearly for quite a distance. It did not support much of a bird population, altho along it there was an abundance of food materials, consisting largely of fish, insects, clams, snails, and plants, left on the beach by the slowly subsiding river. The summer bird population did not contain a single species typical of this bird association. The birds noted were mostly birds coming to the shore to bathe. Toward the end of July the fall migration set in with the inroad of various kinds of sandpipers. This increase was added to the bird life of the strand and made it seem more natural. Following each north wind the sandpipers began to appear singly and in small flocks all along the river. These flocks continually workt southward. Most of the flocks kept at such a distance that specific determination was well nigh impossible. Those identified were, for the most part, solitary, spotted, pectoral and semipalmated sandpipers and the killdeer plover.

There was a much greater expanse of mud strand, which is submerged during the high waters of spring. When emerged it occurs as mud flats or as muddy strips within the willows. As it is not exposed during the time of the spring migration of mud strand birds, its avian population is very small in comparison with what it might otherwise hav been. As not many of the mud strand birds range this far south during the summer, the population is further reduced. However, there are a few typical species each represented by a few individuals. As in the case with the sand strand, the mud strand bird population is largest during the migrations, which is outside of the scope of this article.

SUMMMER BIRDS OF THE SAND STRAND.

d	Green Heron	f r occasional
d	Phœbe	f bathing not uncommon
s	Bronzed Grackle	bathing common
s	Robin	bathing fairly common

AFTER THE FALL MIGRATION HAD COMMENCED.

d	Spotted Sandpiper	f	r abundant
d	Semipalmated Sandpiper	f	r fairly common
d	Solitary Sandpiper	f	r abundant
d	Pectoral Sandpiper	f	r common
d	Killdeer Plover	f	r several

SUMMER BIRDS OF THE MUD STRAND.

d	Bittern	f	one record
d	Great Blue Heron	f	r common
d	Green Heron	n f	r common
d	Coot	f	one record
d	Wilson Snipe	f	one flock seen once
d	Solitary Sandpiper	n?f	r one or two families in the summer, but abundant in the fall migration .
d	Pectoral Sandpiper	f	r common in the migration
d	Semipalmated Sandpiper	f	r fairly common in the fall migration
d	Spotted Sandpiper	f	r abundant in migration
d	Killdeer Plover	f	r several in migration.

THE THICKET ASSOCIATIONS.

No real mesofytic or xerofytic thickets are present in this region. A few birds which are elsewhere typical of such thickets hav adapted themselves to the more or less similar conditions which do exist in this vicinity, that is to say, to the hedges and the small orchards in the vicinity of houses.

With the exception of three or four of locust (*Robinia pseudo-acacia*) hedges are of osage-orange (*Maclura pomifera*), which not only fulfills the ordinary purpose of a hedge but also serves as a wind break, preventing excessiv wind action on the mobil sand. To accomplish the latter purpose the osage orange must be allowed to develop to good size, which incidentally furnishes ample protection to many birds.

SUMMER BIRDS OF THE HEDGES(=THICKET ASSOCIATION).

s	Bluebird		r not common and most often seen on wires near hedges.
s	Robin	n f	r not common away from man
d	Carolina Chickadee	n f	r a few in several different hedges

s	Tufted Titmouse		f	r a very few in hedges
d	Brown Thrasher	n	f	r quite common
s	Catbird	n	f	r a few especially near houses
d	Mockingbird	n	f	r not many individuals, but almost universally in hedges
s	Warbling Vireo		f	r a few in hedges near woods
d	Migrant Shrike	n	f	r a very few in this region
s	Dickcissel			r This bird quite commonly uses the hedges as a point of vantage from which to look and to sing. Wires are, however, preferred to a noticeable extent when the wires are near the hedges.
s	Rose-breasted Grosbeak			r few and only occasionally
d	Cardinal	n	f	r quite common
t	Towhee			r one record
s	Indigo Bunting		f	r few
d	Field Sparrow	n	f	r common
s	Lark Sparrow			r rarely
s	Vesper Sparrow			r rarely
s	Goldfinch			r not common
s	Bronzed Grackle			r occasionally
s	Baltimore Oriole		f	r frequent
d	Orchard Oriole	n	f	r frequent
t	Cowbird			r occasionally
s	Crow			r seldom
t	Blue Jay			r infrequent
s	Kingbird			r occasionally
s	Northern Flicker		f	r occasionally
s	Red-headed Woodpecker		f	r not infrequent
s	Downy Woodpecker		f	r very few
s	Hairy Woodpecker		f	r two pairs and their young
s	Black-billed Cuckoo		f	r occasionally
s	Yellow-billed Cuckoo		f	r not infrequent
d	Mourning Dove	n	f	r common

From the length of the list of hedge birds one might think that hedges were favorit places for birds, but the fact is that where hedges occur they are usually the only points of vantage from which the birds can watch the movements of intruders. They afford birds of the crops, of the bunchgrass prairies, and of the roadsides, lookout stations which virtually

no bird disdains to use. The typical hedge birds which are usually found in the hedges themselves are the mockingbird, brown thrasher, field sparrow, mourning dove, Carolina chickadee, migrant shrike, cardinal and the black-billed cuckoo. Somewhat secondary to these are the bluebird, robin, Baltimore oriole, northern flicker, red-headed woodpecker, and the blue jay.

HYDROFYTIC THICKET ASSOCIATION.

In this vicinity virtually all the thickets of this plant association hav been drowned since the opening of the Chicago drainage canal. Several of the plants which formed these thicket associations are still present in this region, but they are so mixt with parts of the tree associations that they no longer form an element in the description of the region. Formerly the *Salix-Cephalanthus* (Willow-Buttonbush) association was quite extensivly distributed in this region, but at the present writing almost everywhere the willows grow, they form trees and the few button-bushes that remain are scraggly shrubs among the willows, where they are slowly being killed. The region around the hed of Lake Matanzas is a partial exception to this statement, for there this association is normal in structur, altho limited in distribution.

The birds that are usually characteristic of this association hav adapted themselves to the changed conditions. This does not seem difficult, for the preferences of the summer birds of this region do not seem to differentiate between bottomland thickets and bottomland woods. Investigation of the very limited areas that approach the former conditions indicate that the birds that were most typical of this association were the song sparrow, indigo bunting, red-winged blackbird, tufted titmouse, Carolina wren, catbird, and the Northern yellow-throat.

THE BOTTOMLAND WOODS.

The bottomlands of this region are quite extensiv, consisting of the parts of the banks of streams and lakes, together with the "towheads" and "willow-islands" separating

some of them. Repeated high waters of long continued duration hav caused a great increase in the number and development of willows of the species, *Salix longifolia,* which has largely superceded the former lowland forest.

Virtually all of the normal undergrowth has been killed. When the bottomland becomes emerged in summer the ground is usually covered with a dense growth of composit, 1.0 to 2.5 meters high, the most common species of which are *Xanthium commune* (cocklebur), *Ambrosia trifida* (giant ragweed), *Solidago spp* (goldenrods), *Aster spp* and *Boltonia decurrans.* The bottomland woods are quite free from shrubby undergrowth as it cannot withstand the action of the ice, together with the continued submergence. In a few open places, however, there are small thicket-like areas composed of willow (*Salix longifolia*), *Adelia acuminata,* and much less frequently some straggly half ded buttonbush.

The bottomland woods are not very dense and the trees are usually leafy almost to the very base. Spiders are very abundant and their webs make dense tangles thruout the foliage. Small insect life is also very abundant, and in addition there is a wealth of molluskan forms.

The bottomland woods in the vicinity of Lake Matanzas partake much of the typical character of a bog, and necessitates special consideration because some of the members of its avifauna were found nowhere else in this region. The tree growth, which dominates the greater part of the bog except at the line of springs at the foot of the bluff, consists largely of soft maple, elm, ashes, birch (*Betula nigra*) and sycamor with dogwood, wild rose, buttonbush and willows as the principal shrubby growth. The courses of the little creeks that flow from the springs are markt by the growth of *Leersia,* one of the grasses, bordered by willows and buttonbushes.

Birds of these bottomland woods are fairly numerous and quite varied in species. Almost without exception they are insectivorous birds. The flycatcher family is the best represented with numerous wood pewees and phoebes, a smaller

number of crested flycatchers and a few kingbirds. The kingbirds are essentially marginal in their position in the willows. The wood pewees are interior birds, while the crested flycatcher and the phoebe partake somewhat of the character of each. The blackbird is second in importance and the vireo family is third. The red-winged blackbirds make their presence known at all hours of the day by their incessant "Kongquerree." Of the vireos the red-eyed and yellow-throated are rather scarce, but the warbling vireo is very abundant. Altho abundant it is ordinarily seldom seen, as it gleans in the dense foliage for the many insects that are present. It harmonizes exceedingly well with its background, but its presence can always be detected by its characteristic sweet song, which is kept up nearly all day long.

To this association may be accredited the warblers that remained here during the summer. Two warblers, the prothonotary and the Northern yellow-throat, were quite uniformly distributed over the bottomland wooded areas, altho the former was by far the more abundant. Three other species of warblers were localized in the Matanzas bog, and with the exception of one redstart in the Spoon river bottoms were seen nowhere else. These were the redstart, the Kentucky and the hooded warblers. As this bog harbored also the yellow-throat and the prothonotary, it contained the complete warbler list for the summer. The most abundant warbler — and almost the most abundant bird in the willows — was the prothonotary warbler, which finds a wealth of nesting sites in the many rotting willow stumps. These birds keep up a well nigh incessant chattering thruout the day. They also make their presence known by rapid darts from one tree to another, their orange to yellow colored heds and bodies appearing like gems in the green foliage. They quite often make excursions across the water during the course of which they usually fly but little above its surface. They are at their best when they are percht at the end of a limb on a dead tree, when they stand out quite vividly against the blue background of sky. Toward

the end of July, just preliminary to their southward migration, these warblers deserted the willows, in which they had livd all summer, and flockt together in the oak woods. A very few individuals remaind in the willows for about a week

SUMMER BIRDS OF THE BOTTOMLAND WOODS.

s	Bluebird		f	r very few
t	Robin		f	r very, very few
d	Wood Thrush	n	f	r common
d	Blue Gray Gnatcatcher		f	r one record
d	Carolina Chickadee	n	f	r fairly common
s	Tufted Titmouse	n	f	r several
t	White-breasted Nuthatch	n	f	r not many
t	Parkman House Wren	n	f	r two pairs
d	Carolina Wren	n	f	r very few
a	Brown Thrasher		f	r scarce
s	Catbird	n?f		r occasionally
d	Redstart	n	f	r two or more pairs
d	Hooded Warbler	n?f		r one seen on different days
d	Northern Yellow-throat	n	f	r few
d	Kentucky Warbler	n?f		r at least four birds
d	Prothonotary Warbler	n	f	r very abundant
d	Yellow-throated Vireo	n	f	r two pairs
d	Warbling Vireo	n	f	r abundant
d	Red-eyed Vireo	n	f	r few
s	Bank Swallow			r several
d	Tree Swallow	n	f	r many
s	Indigo Bunting	n	f	r few
s	Rose-breasted Grosbeak	n	f	r few
d	Cardinal	n	f	r few to several
s	Song Sparrow	n	f	r few
a	English Sparrow		f	r occasional flocks
t	Goldfinch			r few
d	Bronzed Grackle	n(f)		r many
d	Baltimore Oriole	n	f	r several
d	Orchard Oriole	n	f	r few
d	Red-winged Blackbird	n	f	r abundant
a	Cowbird			r few
s	Crow	n?f		r few
s	Blue Jay		f	r few
s	Northern Flicker	n	f	r few
d	Red-bellied Woodpecker	n	f	r very few
d	Red-headed Woodpecker	n	f	r abundant

d	Hairy Woodpecker	n	f	r few
d	Wood Pewee	n	f	r very abundant
d	Phœbe	n	f	r common
d	Crested Flycatcher	n	f	r several
d	Kingbird	n	f	r few
ds	Belted Kingfisher			r common
d	Black-billed Cuckoo		f	r few
d	Yellow-billed Cuckoo		f	r common
d	Sparrow Hawk	n	f	r at least two pairs with young
t	Marsh Hawk			r one record
d	Mourning Dove	n	f	r common to abundant
t	Solitary Sandpiper		f	r one family noted along the margin in July
t	Spotted Sandpiper		f	r a few along the margin. (These two sand-pipers come within this association because with the reversal of successions caused by high water the mud flat is encroaching on the willows.)
s	Green Heron	n	f	r marginal and common
s	Great Blue Heron	n	f	r semimarginal and several
s	Bittern			r one record
t	Double-crested Cormorant	n		r 32 individuals in 1910.

THE UPLAND FOREST ASSOCIATIONS. All of the upland woods in Mason County, in the vicinity of Havana are of one or the other of two plant associations, the black oak or the mixt forest associations. Together they cover quite a little of the region, particularly the ridges, with a moderately open growth of woods.

The black oak is the earlier stage in a genetic series. It is composed typically of black oak (*Quercus velutina*) and blackjack (*Quercus marilandica*), the latter being more frequently a marginal tree. The shrubbery growth is very largely composed of the young trees of the two oaks and of a hickory. In addition there are a few normal shrubs, such as sumac (*Rhus canadensis illinoensis*), redroot (*Ceanothus americanus*), gooseberry (*Ribes gracile*) and blackberry (*Rubus spp*). This growth is largely confined to the margins and to the openings. The development of vines is slight and the

herbaceous growth is largely more or less xerofytic in natur.

Many of these black oak woods are giving place to a more mesofytic type of woods, to which the term "mixt forest" has been applied by Gleason.[1] The succession is evidenced by the inroad of hickories and vines, which giv proof of a more mesofytic soil, altho the tree growth may still retain about the same percentage composition as befor. This is because conditions are ripe for succession, but supercedance of the dominant species takes place after the death of the dominant species of the first association. This is taking place slowly, giving expression to a woods in which the trees are still largely typical of the black oak woods, while the undergrowth is distinctly of the mixt forest type.

MIXT FOREST. The forest association to which this term has been applied is well developt, especially on some of the ridges near the Illinois River. It is a forest of five or six principal kinds of trees, of which as high as 50% may be black oak (*Quercus velutina*). Aside from this tree the principal trees are hickories (*Hicoria cordiformis* and *Hicoria glabra villosa*), hackberry (*Celtis occidentalis*), elms (*Ulmus americana* and *fulva*, *bur oak* (*Quercus macrocarpa*) and white oak (*Quercus alba*). The ground supports a luxuriant growth of vines, herbs and shrubs. The vines, Virginia creeper, bittersweet, poison ivy, and grape are very characteristic of the earlier stages of this association. Later the ground is coverd with more typical mesofytic plants.

Both of these two types of upland woods are characterized by quite a number of birds, which are not so exclusivly insectivorous as those of the bottomland woods. Several of these are far more often heard than seen and but very few of the species are obtrusiv. There is comparativly little difference in the species list of each of these two associations as nearly every bird that occurs in one occurs in the other also.

[1] **Gleason, H. A. The Vegetation of the Inland Sand Deposits of Illinois, Bulletin, Illinois State Laboratory of Natural History, 9:135, 1910.**

There may be, however, a decided difference in abundance of individuals in either association. This will be indicated in the table of species.

SUMMER BIRDS OF THE BLACK OAK FOREST ASSOCIATION.

t	Robin	r uncommon or rare
d	Wood Thrush	n f r fairly common
s	Carolina Chickadee	f r few
t	Tufted Titmouse	f r not many
d	White-breasted Nuthatch	r common
t	Brown Thrasher	r scarce
s	Mockingbird	f r scarce
d	Warbling Vireo	n f r common
d	Cardinal	n f r few
d	Towhee	n f r few
t	Goldfinch	r few
s	Bronzed Grackle	f r not very common
s	Baltimore Oriole	f r few
d	Crow	n f r scarce in this region in general
d	Blue Jay	n f r few
d	Wood Pewee	n f r common
s	Crested Flycatcher	r scarce
d	Northern Flicker	n f r very few
d	Red-headed Woopecker	n fr common
d	Yellow-billed Cuckoo	f r few
d	Broad-winged Hawk	n?f r two pairs
d	Mourning Dove	n f r several
d	Bob-white	n f r several

SUMMER BIRDS OF THE MIXT FOREST ASSOCIATION.

s	Bluebird	r scarce
d	Robin	f r not common
d	Wood Thrush	n f r abundant
t	Carolina Chickadee	f r scarce
t	Tufted Titmouse	f r not many
d	White-breasted Nuthatch	n f r abundant
t	Brown Thrasher	r scarce
s	Catbird	f r scarce
t	Northern Yellow-throat	r scarce
t	Yellow-throated Vireo	n f r one pair

d	Warbling Vireo	n	f	r abundant
d	Red-eyed Vireo	n	f	r scarce
d	Scarlet Tanager	n	f	r few
t	Indigo Bunting			r few
d	Rose-breasted Grosbeak	n	f	r few
d	Cardinal	n	f	r few
s	Towhee	n	f	r few
t	Goldfinch			r few
s	Bronzed Grackle			r more or less common
d	Baltimore Oriole	n	f	r common
d	Orchard Oriole	n	f	r few
t	Red-winged Blackbird			r not common
d	Cowbird	eggs	f	r few
s	Crow		f	r scarce
d	Blue Jay	n	f	r common
d	Wood Pewee	n	f	r abundant
d	Phœbe	n?f		r few
d	Crested Flycatcher	n?f		r few
t	Kingbird			r one pair
t	Nighthawk			r very few
t	Whippoorwill			r two or three
d	Northern Flicker	n	f	r not many
t	Red-bellied Woodpecker	n	f	r at least one family
d	Red-headed Woodpecker	n	f	r common
d	Downy Woodpecker	n	f	r one pair with young
d	Hairy Woodpecker		f	r very few
d	Yellow-billed Cuckoo		f	r few
d	Red-tailed Hawk		f	r one
d	Mourning Dove	n	f	r several
t	Bob-white		f	r very few

In addition to the groups of birds which hav been given above there are a few birds which can not well be included in any of them. Birds, such as the chimney swift, the nighthawk and, in this region, the goldfinch, are virtually never seen except as they are flying about in the air. The swallows likewise spend a great deal of their time in the air, flying about in search of food. The Mississippi kite is placed here on the basis of but one record.

The open dirt banks of the river form the fysiografic basis for another grouping of birds, consisting of those birds which bild their nests in such situations. In cases where several strata are exposed some are pickt to the exclusion of others for

the tunnel, at the base of which is placed the nest. To this group belong the bank swallow and the kingfisher.

Still other birds are influenced in their distribution primarily by man. Most of such birds prefer to liv near human habitations, while others seem to remain near dwelling places and, at least, tolerate man. In so far as was noticed during this summer the following birds might accordingly be classed as domesticated "d" or semidomesticated "sd."

d Robin
sd Wood Thrush
d Parkman House Wren
d Catbird
sd Mockingbird
sd Warbling Vireo
sd Rose-breasted Grosbeak
d Cardinal
d English Sparrow
d Baltimore and Orchard Orioles
sd Wood Pewee
sd Northern Flicker
sd Red-headed Woodpecker
sd Yellow-billed Cuckoo
sd Ruby-throated Hummingbird
sd Blue Jay

GENERAL CONCLUSIONS.

Consideration of the forgoing data shows that the more extensiv plant groups hav associated with them certain birds which, as a group, are partial in their habitat preferences — in this region at least — to those plant associations.

Birds of the wooded areas of this part of Illinois are much more numerous, both in number of species and of individuals than those of the prairies.

Lowland woods are more plentifully and more diversely populated than upland woods.

Birds are far more restricted in their daily movements than one would at first think possible. While birds need not necessarily be confined to one plant association or closely allied

groups of plant associations, they are quite likely to be and most birds pursue all their summer life activities within the same plant formation.

In certain cases bird activity is one of the prime factors in causing plant succession which in turn is followed by a change in the character of the bird population. Such is obviously the case in the transition from the black oak to the mixt forest associations, in which the birds play the role of seed distributors of the vines and shrubs which hav given rise to a most prominent characteristic of the mixt forest.

Studies similar to this in restricted areas thruout the country and in every season of the year are necessary in order to obtain a clearer insight into avian ecology.

Systematic Array of Summer Birds of Havana, Ill.

	Prairie Province		DECIDUOUS FOREST PROVINCE										
						Thickets		Woods					
	1 Bunchgrass Prairies	2 Prairie Swamps	3 Aquatic	4 Sand Strand	5 Mud Strand	6 Hedges and Orchards	7 Hydrophytic Thickets	8 Bottomland Woods	9 Black Oak Forest	10 Mixt Forest	11 Bluff Face	12 Town
PIED-BILLED GREBE *Podilymbus podiceps*			d									
COMMON TERN *Sterna hirundo*			d									
BLACK TERN *Hydrochelidon nigra surinamensis*			d									
DOUBLE-CRESTED CORMORANT *Phalacrocorax a. auritus*			d					t				
RED-BREASTED MERGANSER *Mergus serrator*			d									
MALLARD *Anas platyrhynchos*			d									
BLUE-WINGED TEAL *Querquedula discors*			d									
WOOD DUCK *Aix sponsa*			d									
LESSER SCAUP DUCK *Marila affinis*			d									
BITTERN *Botaurus lentiginosus*					d			s				
GREAT BLUE HERON *Ardea h. herodias*		d			d			s				
GREEN HERON *Butorides virescens*		s		d	d			s				
COOT *Fulica americana*					d							
WILSON'S SNIPE *Gallinago delicata*					d							
PECTORAL SANDPIPER *Pisobia maculata*				d	d							
SEMIPALMATED SANDPIPER *Ereunetes pusillus*				d	d							
SOLITARY SANDPIPER *Helodromas s. solitarius*				d	d			t				
SPOTTED SANDPIPER *Actitis macularia*				d	d			t				
KILLDEER *Oxyechus vociferus*				d	d							
BOB-WHITE *Colinus v. virginianus*	s								d	t		
MOURNING DOVE *Zenaidura macroura carolinensis*	s					d		d	d	d		
MISSISSIPPI KITE *Ictinia mississippiensis*			d?									
MARSH HAWK *Circus hudsonius*								t				
RED-TAILED HAWK *Buteo b. borealis*										d		
BROAD-WINGED HAWK *Buteo platypterus*									d			
SPARROW HAWK *Falco s. sparverius*								d				

	1	2	3	4	5	6	7	8	9	10	11	12
TOWHEE Pipilo e. erythrophthalmus						t			d	s		
CARDINAL Cardinalis c. cardinalis						d		d	d	d		*
ROSE-BREASTED GROSBEAK Zamelodia ludoviciana						s		s		s		*
INDIGO BUNTING Passerina cyanea		d				s	d	s		t		
DICKCISSEL Spiza americana	d	t				s						
SCARLET TANAGER Piranga erythromelas										d		
PURPLE MARTIN Progne s. subis			s									
CLIFF SWALLOW Petrochelidon l. lunifrons			d									
TREE SWALLOW Iridoprocne bicolor			d					d				
BANK SWALLOW Riparia riparia			d					s			d	
MIGRANT SHRIKE Lanius ludovicianus migrans						d						
RED-EYED VIREO Vireosylva olivacea								d		d		
WARBLING VIREO Vireosylva gilva						s		d	d	d		*
YELLOW-THROATED VIREO Lanivireo flavifrons								d		l		
PROTHONOTARY WARBLER Protonotaria citrea								d				
KENTUCKY WARBLER Oporornis formosus								d				
MARYLAND YELLOW-THROAT Geothlypis t. trichas		t					d	d		t		
HOODED WARBLER Wilsonia citrina								d				
REDSTART Setophaga ruticilla								d				
MOCKINGBIRD Mimus polyglottos	a					d			s			*
CATBIRD Dumetella carolinensis						s	d	s		s		*
BROWN THRASHER Toxostoma rufum	d					d		d	t	t		
CAROLINA WREN Thryothorus l. ludovicianus							d	d				
PARKMAN'S HOUSE WREN Troglodytes aedon parkmani								t				*
SHORT-BILLED MARSH WREN Cistothorus stellaris		d										
WHITE-BREASTED NUTHATCH Sitta c. carolinensis								t	d	d		
TUFTED TITMOUSE Baeolophus bicolor						s	d	s	t	t		
CAROLINA CHICKADEE Penthestes c. carolinensis						d		d	t	t		
BLUE-GRAY GNATCATCHER Polioptila c. caerulea								d				
WOOD THRUSH Hylocichla mustelina								d	d	d		*
ROBIN Planesticus m. migratorius		a	a	s		s		t	t	d		*
BLUEBIRD Sialia s. sialis			a			s		s		s		

	1	2	3	4	5	6	7	8	9	10	11	12
YELLOW-BILLED CUCKOO Coccyzus a. americanus						s		d	d	d		*
BLACK-BILLED CUCKOO Coccyzus erythrophthalmus						s		d				
KINGFISHER Ceryle alcyon			d					ds			d	
HAIRY WOODPECKER Dryobates v. villosus						s		d		d		
DOWNY WOODPECKER Dryobates pubescens medianus						s				d		
RED-HEADED WOODPECKER Melanerpes erythrocephalus			s			d		d	d	d		*
RED-BELLIED WOODPECKER Centurus carolinus								d		t		
NORTHERN FLICKER Colaptes auratus luteus						s		s	d	d		*
WHIP-POOR-WILL Antrostomus v. vociferus										t		
NIGHTHAWK Chordeiles v. virginianus			s							t		
CHIMNEY SWIFT Chaetura pelagica			d									
RUBY-THROATED HUMMINGBIRD Archilochus colubris												*
KINGBIRD Tyrannis tyrannis	a		s			s		d		t		
CRESTED FLYCATCHER Myiarchus crinitus								d	s	d		
PHOEBE Sayornis phoebe			s	d				d		d		
WOOD PEWEE Myiochanes virens								d	d	d		*
BLUE JAY Cyanocitta c. cristata						t		s	d	d		*
CROW Corvus b. brachyrhychos	s					s		s	d	s		
BOBOLINK Dolichonyx oryzivorus		d										
COWBIRD Molothrus a. ater						t		d		d		
RED-WINGED BLACKBIRD Agelaius p. phoeniceus		d					d	d		t		
MEADOWLARK Sturnella m. magna	s?	d										
WESTERN MEADOWLARK Sturnella neglecta	d											
ORCHARD ORIOLE Icterus spurius						d		d		d		*
BALTIMORE ORIOLE Icterus galbula						s		d	s	d		*
BRONZED GRACKLE Quiscalus quiscalus aenus		s	s	s		s		d	s	s		
GOLDFINCH Astragalinus t. tristis						s		t	t	t		
VESPER SPARROW Poocetes g. gramineus	d					s						
LARK SPARROW Chondestes g. grammacus	d					s						
FIELD SPARROW Spizella p. pusilla						d						
ENGLISH SPARROW Passer domesticus	t							a				*
SONG SPARROW Melospiza m. melodia							d	s				

OBSERVATIONS ON THE SPRING MIGRATION (1910) AT ANN ARBOR, MICHIGAN.

BY A. D. TINKER.

The following series of notes is a compilation of the records secured by Messrs. N. A. Wood, F. O. Novy, and the writer during the past spring. One or another of the party, and sometimes all, were in the field daily from the first of March to the last of May, making observations on the progress of the migration and taking specimens of the rarer species. Nearly all of the field work was done in the immediate vicinity of Ann Arbor. Mr. Wood made an occasional trip to Portage Lake, Washtenaw County, securing records of water-birds that otherwise would not have been noted.

A great many of the weather conditions prevalent during the spring of 1910 were quite similar to those of the corresponding season of 1907. However, the cold waves this year did not have the same effect upon the migration as in 1907. It will be well remembered that during that spring bird-life in general, and warblers in particular, were very abundant here and prolonged their stay to an unusual extent. This was especially true of the later migrants (Wood—Auk, vol. xxv, page 10). But this year there was no such abundance of individuals of the various species, although about the usual number of species were recorded. In fact, the migrants last to arrive, that is the great majority of the warblers, and some of the sparrows and thrushes, were rather scarce, while others were not noted at all. Whether this discrepancy was due to the destructive force of the heavy storms that took place along the Gulf States when the migration was at its height in that region or not must remain an open question. It is also quite possible that other forces combined to influence the migrating hosts to such an extent as to cause them to pass on without stopping here, as is their custom. Whatever the causes may have been, field-work throughout the entire season gave abundant evidence of the fact that there was a great falling off in the number of individuals of some of the species.

The first positive evidence of the spring migration was recorded on March 2 and 3, when there was a decided rise in the temperature, resulting in the disappearance of nearly all of the snow, and by the sixth of the month the open ground was free from snow. From the first to the sixth the prevailing winds were southerly, and during this period the Belted Kingfisher, Red-winged Blackbird, Marsh Hawk, Robin, Bluebird, Killdeer, Meadowlark, Mourning Dove, Cedar Waxwing, Canada Goose, Bronzed Grackle, American Golden-eye, and Canvas-back Ducks made their appearance. This constituted the first bird-wave of the season.

On March 7 there was a return of low temperature and northerly winds, with frequent snow flurries, practically putting a stop to all northward movements of the birds. March 10 witnessed a return of mild weather, which continued, with some slight changes, throughout the balance of the month. During this period from March 7 to 30 there was a gradual movement of the birds to the north, with heavier waves of migration on March 10, 19, 25, 27 and 28. None of these, however, brought in as many new arrivals as the first wave of the season. The total number of new arrivals noted during March was thirty-seven. The entire month was warm and remarkably free from the sudden changes which usually make the month so disagreeable in this latitude. On the 30th there was a cold wave, with heavy frosts on the evening of the 31st.

April opened fair and warm, with south-west winds, but on the 7th there was a return of cold weather, with heavy frosts. However, on the 8th there was a warm wave, which continued, with some slight variations, up to the 16th of the month, when low temperatures prevailed again. This cold wave remained in force until the 29th, after which it was warm for the balance of the month. There was a steady migration throughout the entire month, but no decided waves were recorded until April 12, and then not again until the 16th. The heaviest migration wave during the entire month took place on the 30th, when eight new species were recorded and the

ranks of the ones already on the ground were greatly augmented. During the entire month forty-four new arrivals were noted, only seven more than were recorded in March, which had an exceptionally large number this year.

The first three days of May were rather unfavorable to migration, but on the fourth there was a warm wave, which brought in six new migrants and added greatly to the species already here. This warm weather continuing to the twelfth resulted in a steady migration, which apparently reached its height on the evening of the 10th. A cold wave struck here on the 12th, but was replaced by a warm one on the evening of the 13th. With slight variations the balance of the month was fairly warm and favorable to migration. During the entire month fifty-six new arrivals were recorded, some of which, as the Least Flycatcher, Sharp-shinned Hawk, Catbird, and Baltimore Oriole should have been noted during the latter half of April. There was a general migratory movement throughout the month, but the heaviest waves occurred on the 4th, 8th, 11th, 14th, 15th, 16th, 17th and 21st, and the last new arrival was noted on June 2. Although about the usual number of migrants were recorded during May there was a remarkable scarcity of individuals among a great many of the species. This was especially noticeable in the Magnolia, Chestnut-sided, Palm, Black-throated Blue, Tennessee, and Wilson warblers, as well as the Grey-cheeked Thrush, Dickcissel, and Least Flycatcher. On the other hand the Blue-headed Vireo, Bay-breasted Warbler, Golden-winged Warbler, and Grasshopper Sparrow were unusually numerous. But very few of the warblers prolonged their stay beyond the usual period, and the majority were here only a short time.

In the following list of 141 migrants the various species are arranged in the order of their arrival, the dates given being the earliest record for the year. Species marked with an -*- occur in limited numbers as winter residents, rendering it very difficult to determine the exact date of the first migrating individuals of these species. In view of this the

dates given after such species are approximately those of the first migrants. The 1909 and 1908 records are given as a basis for comparison.

LIST OF MIGRANTS.

	1910	1909	1908
*Prairie Horned Lark	Feb. 27	Mar. 7	Mar. 10
*Belted Kingfisher	Mar. 2	Mar. 27	Mar. 21
Red-winged Blackbird	Mar. 3	Mar. 6	Mar. 8
Marsh Hawk	Mar 3	Mar. 2	Mar. 8
*Robin	Mar. 4	Mar. 4	Mar. 5
Bluebird	Mar. 4	Mar. 4	Mar. 8
Killdeer	Mar. 4	Mar. 6	Mar. 12
*Meadowlark	Mar. 5	Mar. 1	Mar. 8
*Flicker (Northern)	Mar. 5	Mar. 6	Mar. 22
*Mourning Dove	Mar. 5	Feb. 22	Mar. 18
*Cedar Waxwing	Mar. 5	Feb. 28	Mar. 8
Canada Goose	Mar. 5	Mar. 20	Feb. 16
Bronzed Grackle	Mar. 5	Mar. 7	Mar. 9
Golden-eye	Mar. 6	Mar. 7	Mar. 9
*Crow	Mar. 6	Feb. 21	Mar. 8
Canvas-back Duck	Mar. 6		Apr. 4
*Song Sparrow	Mar. 6	Feb. 21	Mar. 15
Lesser Scaup Duck	Mar. 8	Mar. 13	Mar. 21
Rusty Blackbird	Mar. 10	Mar. 7	Mar. 12
Herring Gull	Mar. 10	Mar. 31	Feb. 2
*Sparrow Hawk	Mar. 10	Mar. 6	Mar. 7
Red-head Duck	Mar. 10		Apr. 4
*Golden-crowned Kinglet	Mar. 11	Mar. 18	Mar. 3
Wilson Snipe	Mar. 12	Apr. 18	Apr. 4
Red-tailed Hawk	Mar. 19	Mar. 7	Mar. 12
Towhee	Mar. 19	Mar. 26	Mar. 15
Phoebe	Mar. 20	Mar. 27	Mar. 13
Cowbird	Mar. 20	Mar. 23	Mar. 12
Yellow-bellied Sapsucker	Mar. 24	Apr. 4	Mar. 27
Fox Sparrow	Mar. 25	Mar. 8	Mar. 22
Hermit Thrush	Mar. 25	Apr. 5	Mar. 24
Vesper Sparrow	Mar. 25	Apr. 4	Mar. 24
Tree Swallow	Mar. 25	Mar. 27	Mar. 20
Buffle-head Duck	Mar. 26	Apr. 11	Mar. 29
Chipping Sparrow	Mar. 27	Apr. 3	Mar. 24
Field Sparrow	Mar. 27	Apr. 2	Mar. 28
Swamp Sparrow	Mar. 27	Apr. 7	Mar. 29
Baldpate	Mar. 28	Apr. 15	

Pied-billed Grebe	Mar. 28	Mar. 27	Mar. 12
Woodcock	Mar. 30	Mar. 28	Mar. 22
Osprey	Apr. 3	Apr. 11	Apr. 16
Ruby-crowned Kinglet	Apr. 3	Apr. 14	Apr. 14
Bittern	Apr. 4	Apr. 24	Apr. 4
Brown Thrasher	Apr. 4	Apr. 12	Apr. 9
Loon	Apr. 5	Apr. 5	Mar. 8
Red-shouldered Hawk	Apr. 8	Mar. 6	Feb. 22
House Wren	Apr. 8	Apr. 28	Mar. 29
Long-billed Marsh Wren	Apr. 10	May 31	May 9
Great Blue Heron	Apr. 10	Mar. 24	Mar. 20
Cooper's Hawk	Apr. 10	May 2	Mar. 23
Migrant Shrike	Apr. 11		Apr. 16
Myrtle Warbler	Apr. 12	Apr. 12	Apr. 19
Bank Swallow	Apr. 12	Apr. 23	Apr. 13
Barn Swallow	Apr. 12	Apr. 11	Apr. 13
Ruddy Duck	Apr. 12	Apr. 13	Apr. 13
*Black Duck	Apr. 12	Mar. 27	Mar. 28
*Mallard	Apr. 13		Apr. 12
Coot	Apr. 13	Apr. 10	Apr. 4
Purple Martin	Apr. 13	Apr. 18	Apr. 25
Spotted Sandpiper	Apr. 15	Apr. 20	Apr. 26
Bartramian Sandpiper	Apr. 15		
Grasshopper Sparrow	Apr. 16	May 19	May 23
White-throated Sparrow	Apr. 16	Apr. 18	Apr. 16
Pectoral Sandpiper	Apr. 16		
Rough-winged Swallow	Apr. 17	May 1	Apr. 29
Cliff Swallow	Apr. 17	May 1	Apr. 23
Greater Yellow-legs	Apr. 22	May 4	Apr. 7
Lesser Yellow-legs	Apr. 22	Apr. 18	Apr. 17
Solitary Sandpiper	Apr. 23	May 8	Apr. 27
Chimney Swift	Apr. 23	Apr. 24	Apr. 24
Horned Grebe	Apr. 23	Apr. 14	Apr. 12
Black-crowned Night Heron	Apr. 25		May 3
Winter Wren	Apr. 28	Mar. 7	Mar. 22
*Red-headed Woodpecker	Apr. 29	Apr. 4	Apr. 23
Virginia Rail	Apr. 29	Apr. 23	Apr. 22
Palm Warbler	Apr. 29	Apr. 28	Apr. 23
Yellow Warbler	Apr. 30	Apr. 28	Apr. 22
Black-throated Green Warbler	Apr. 30	May 6	Apr. 23
Black and White Warbler	Apr. 30	May 2	Apr. 19
Blue-gray Gnatcatcher	Apr. 30	May 2	Apr. 19
*Purple Finch	Apr. 30	Apr. 11	Mar. 8
Green Heron	Apr. 30	May 8	Apr. 22
Lark Sparrow	Apr. 30		May 15

Bobolink	Apr. 30	May 5	Apr. 22
Catbird	May 1	May 4	Apr. 13
Northern Yellow-throat	May 1	May 4	Apr. 25
Oven-bird	May 1	Apr. 25	May 9
Bonaparte's Gull	May 2		May 9
*Merganser	May 3	Mar. 27	Jan. 27
Blue-headed Vireo	May 3	May 6	
Sora Rail	May 3	Apr. 30	Apr. 13
Savannah Sparrow	May 4	Apr. 14	
Least Flycatcher	May 4	May 6	Apr. 26
Baltimore Oriole	May 4	May 1	Apr. 24
Pipit	May 4		
King Rail	May 4	June 24	
Sharp-shinned Hawk	May 4	May 2	Apr. 13
Wood Thrush	May 5	Apr. 25	Apr. 29
Rose-breasted Grosbeak	May 6	May 5	May 3
Warbling Vireo	May 6	May 6	Apr. 25
Louisiana Water-thrush	May 8	Apr. 28	Apr. 26
Sycamore Warbler	May 8		Apr. 26
Nashville Warbler	May 8	May 7	Apr. 27
Grey-cheeked Thrush	May 8	May 5	Apr. 25
Wilson's Thrush	May 8	May 6	Apr. 27
White-crowned Sparrow	May 10	Apr. 30	May 3
Kingbird	May 11	May 1	Apr. 26
Whip-poor-will	May 11	May 12	Apr. 19
Chestnut-sided Warbler	May 11	May 6	May 12
Red-breasted Nuthatch	May 11		
Crested Flycatcher	May 11	May 6	May 12
Red-eyed Vireo	May 12	May 12	May 12
Cerulean Warbler	May 13	June 6	May 16
Blackburnian Warbler	May 14	May 6	May 8
Golden-winged Warbler	May 14	May 6	May 15
Redstart	May 14	May 2	May 11
Indigo Bunting	May 14	May 15	May 15
Least Bittern	May 14	June 8	May 1
Black Tern	May 15	June 26	
Black-throated Blue Warbler	May 15	May 5	Apr. 25
Yellow-throated Vireo	May 15	May 6	Apr. 26
Turkey Vulture	May 15	June 6	May 10
Orchard Oriole	May 16	May 13	May 15
Tennessee Warbler	May 16	May 7	May 12
Common Tern	May 16	Apr. 24	Apr. 12
Magnolia Warbler	May 16	May 6	May 11
Olive-backed Thrush	May 17	May 2	May 2

Scarlet Tanager	May 17	May 7	May 11
Wood Pewee	May 17	May 16	May 2
Cape May Warbler	May 17	May 6	May 15
Ruby-throated Hummingbird	May 19	May 12	Apr. 25
Bay-breasted Warbler	May 21	May 14	May 13
Black-billed Cuckoo	May 19	May 18	May 16
Yellow-billed Cuckoo	May 21	May 29	May 16
Black-poll Warbler	May 21		May 15
Nighthawk	May 23	May 29	May 17
Northern Parula Warbler	May 24	May 12	May 16
Wilson's Warbler	May 24	May 18	May 15
Canadian Warbler	May 27	May 6	May 11
Connecticut Warbler	May 28		May 17
Mourning Warbler	June 2	May 25	May 24

BIRD NOTES FROM PINEHURST, NORTH CAROLINA.

BY C. J. PENNOCK.

Following is a summary of my notes taken at Pinehurst, Moore County, N. C., during a stay there from February 9, to March 17, 1910.

This attractive winter resort settlement is about seventy-five miles south of Raleigh, forty miles from the South Carolina state line, and nearly one hundred miles north-west from Wilmington, at or near the sea coast. The elevation is about 650 feet above sea level and is in the Long Leaf Pine (*P. tæda*) district. Until within twenty years or so turpentine making was the principal industry of the region. With the building of a railroad the timber has been largely cut off, and later, devastating fires of frequent recurrence have made a most desolate looking country of much of the surrounding region. The aspect is rolling and many small streams are present. The soil is sandy, and excepting in few instances agricultural improvement has made slight progress. *Pinus tæda, P. echinata,* White Oak (*Q. alba*), Post Oak (*Q. obtusiloba*), Black Jack (*Q. nigra*) on the higher lands, and Sweet-Gum (*Liquidambar styraciflua*), Black-Gum (*Nyssa multiflora* and *N. uniflora*), Magnolia glauce and Tulip-trees

(*Liriodendron tulipifera*) on the lower lands are the most common trees. Along the streams Holly (*Ilex opaca*), *Andromeda nitida*, and Catbrier (*Smilax rotundifolia*) abound, and Mistletoe (*Phoradendron flavescens*) is abundant.

There are few large bodies of original-growth timber within five or six miles of Pinehurst. Around Carthage, twelve miles distant, much old pine is still standing, and midway between these two towns is some fine oak woods. The village of Pinehurst is beautifully laid out with roads and walks, many of which are bordered with an abundance of close growing shrubbery, making attractive shelter for several species of birds, notably Mockingbirds and Myrtle Warblers, while Towhees, White-throated Sparrows and Cardinals are seen here frequently. Probably the berry-bearing shrubs had much to do with the abundance of birds in the village, for I saw but one Mockingbird outside of Pinehurst, while they were numerous therein, and a flock of Cedar Waxwings frequented the locality for some time, often alighting on the bushes to feed on berries. The species noted are for the most part what one would expect to find.

I attempted to cover the ground carefully for several miles adjacent to Pinehurst and believe that few winter resident species escaped my observations. The season was an unusually cold one there, as it was throughout eastern United States generally. This no doubt retarded the migration movement, for with the exception of a Nighthawk and a sudden influx of Chipping Sparrows little or no migration movement was noted.

1. *Podilymbus podiceps.*—Pied-billed Grebe.

This bird is reported as being frequently seen on McKenzie's pond, two miles from Pinehurst, some times four or five together. I saw one swimming there March 15th and another that had been shot March 1st.

2. *Anas platyrhynchos.*—Mallard.

One had been wing-tipped at McKenzie's pond. I saw it in the poultry yard at Pinehurst.

3. *Philohela minor.*—Woodcock.

Said to be rather abundant at times. I shot a male February 23. The only one I saw. It was seemingly close to breeding time.

4. *Oxyechus vociferus.*—Killdeer.

Three came down on the golf links March 7th and six were there March 16th.

5. *Colinus virginianus virginianus.*—Bob-white.

Quite abundant, even within the village limits. They are carefully protected, and hawks are trapped and shot to save the quail. Many visitors find good sport hunting them and fair bags are made.

6. *Zenaidura macroura carolinensis.*—Mourning Dove..

Abundant everywhere. On the rye field near the dairy I usually saw them in groups of eight to twenty. After March 2d some were seen in pairs, as if mated.

7. *Cathartes aura.*—Turkey Vulture.

An abundant species. Both species seem to be affected by the cold and were seldom a-wing until 9:00 to 10:00 a. m. when the mercury ranged low.

8. *Catharista urubu.*—Black Vulture.

Numerous, and a striking feature to a northern visitor. By their style of flight, contour, and one might say *general effect*, the two species of Vultures may be distinguished almost as far as they can be seen. My observations would indicate that the two species combined are not so numerous as is the Turkey Vulture in lower Delaware.

9. *Accipiter velox.*—Sharp-shinned Hawk.

I saw but one. It was after some quarry along a clump of bushes bordering a stream.

10. *Accipiter cooperi.*—Cooper's Hawk.

But one seen to be positively identified.

11. *Buteo borealis borealis.*—Red-tailed Hawk.

A pair were located one-half mile back of the Dairy along a small stream, and on March 10 I took one egg with incubation begun. Two or three other birds were seen.

12. *Buteo lineatus lineatus.*—Red-shouldered Hawk.

Two or three seen. All the large hawks are hunted closely, and steel traps are placed on high poles in exposed places. I was told they had formerly caught many "Chicken Hawks" in this way. I saw one Turkey Vulture and one Sparrow Hawk so entrapped.

13. *Falco sparverius sparverius.*—Sparrow Hawk.

Not very abundant. A lack of food supply no doubt was the reason, there being comparatively little cover for mice. The stomach of one shot contained remains of a White-throated Sparrow.

14. *Otus asio asio.*—Screech Owl.

For the reason just stated I surmise this is not an abundant

species about Pinehurst. I saw one sunning himself about 8:30 a. m. February 19, in the bright sunshine, the thermometer having marked 22° at 7 a. m.

15. *Bubo virginianus virginianus.*—Great Horned Owl.

Said to be rather common. One was captive in the park, taken near by in early winter, and others had been taken. They did not live amicably, I was told, and would sometimes fight to the death.

16. *Ceryle alcyon.*—Belted Kingfisher.

I saw one near the mill and they were reported as being rather common.

17. *Dryobates villosus audubonl.*—Southern Hairy Woodpecker.

I saw but four or five. I referred all to this form. One shot measured 8.54 inch, wing 4.50 inch.

18. *Dryobates pubescens pubescens.*—Southern Downy Woodpecker.

Seemingly more abundant than was the preceding species. Three I shot measured, length, 6.25, 6.00, 6.00 inches; wing, 2.25, 2.62, 2.50.

19. *Dryobates borealis.*—Red-cockaded Woodpecker.

Fairly abundant; noted on eight different days, and twenty-one individuals counted. Possibly a few of these were seen twice.

20. *Sphyrapicus varius varius.*—Yellow-bellied Sapsucker.

Not numerous. I did not see above six of them.

21. *Melanerpes erythrocephalus.*—Red-headed Woodpecker.

Seen only in the village, where there were two or three, evidently young of the preceding year. By March 13 the head was showing bright red.

22. *Centurus carolinus.*—Red-bellied Woodpecker.

Saw one only. It was in the oak woods eight miles northeast of Pinehurst, March 4, my only trip to this region. They appeared absent from the pine lands about Pinehurst.

23. *Colaptes auratus auratus.*—Flicker.

Abundant. Seen about the village and over the country generally. By February 23 they had become quite noisy and were love-making on March 2.

24. *Chordeiles virginianus virginianus.*—Nighthawk.

I was surprised to see a single bird on February 22 flying over the village. It was not over fifty yards distant and in full light. On March 14 I heard one of these birds overhead towards evening as I passed through the Park grove, but failed to see it. It has been suggested that this may have been a bird unable to make the southward flight last fall and remained north throughout the winter. Its appearance at the place and time is certainly remarkable

25. *Otocoris alpestris practicola.*—Prairie Horned Lark.

A small flock was on the rye field near the Dairy. I shot one February 12.

26 *Cyanocitta cristata cristata.*—Blue Jay.

Quite common everywhere. Appeared to be mating March 14.

27. *Corvus brachyrhynchos brachyrhynchos.*—Crow.

Not abundant; never saw more than six at one time. Usually three or four were together.

28. *Molothrus ater.*—Cowbird.

A flock of 300 or more appeared March 8 and remained, at least, until we left, March 16. They fed on the open fields and lots in and close to the village, keeping in a compact body on the ground, those from one side flying over the others and alighting on the opposite side close to their companions.

29. *Sturnella magna magna.*—Meadowlark.

Abundant all through the more open parts of the village, on the golf links, frequently seen in the open woods in flocks of irregular numbers up to thirty, and sometimes a single bird was flushed in seemingly unsheltered localities.

30. *Euphagus carolinus.*—Rusty Blackbird.

A flock of about 20 remained several weeks along the small stream a quarter of a mile below the power plant. Were still there March 16.

31. *Astragalinus tristis tristis.*—Goldfinch.

Never seen abundantly. At several times in small numbers.

32. *Poaecetes gramineus gramineus.*—Vesper Sparrow.

Abundant. They were usually seen in flocks. Sometimes 50 to 100 together.

33. *Passerculus sandwichensis savanna.*—Savannah Sparrow.

Only a few seen.

34. *Zonotrichia albicollis.*—White-throated Sparrow.

Quite common. Found in shrubbery in the village, and especially in the low borders of streams where cover was abundant. They commenced singing softly March 6.

35. *Spizella passerina.*—Chipping Sparrow.

First seen March 2, and became abundant on the 8th. Thereafter at times in flocks of twenty or more.

36. *Spizella pusilla pusilla.*—Field Sparrow.

Abundant. Frequently heard singing after February 27.

37. *Junco hyemalis hyemalis.*—Junco.

Very abundant. Found almost everywhere, and in flocks of a few to 100 or more.

38. *Melospiza melodia melodia.*—Song Sparrow.

Commonly distributed.

39. *Melospiza georgiana.*—Swamp Sparrow.

Not abundant; rarely saw more than one in a half day's tramp.

40. *Passerella iliaca iliaca.*—Fox Sparrow.

I found small colonies in a few places.

41. *Pipilo erythrophthalmus erythrophthalmus.*—Towhee.

Rather common; usually found near the small streams. A few in the shrubbery in the village.

42. *Cardinalis cardinalis cardinalis.*—Cardinal.

Common wherever there were favorable surroundings.

43. *Bombycilla cedrorum.*—Cedar Waxwing.

A flock of over 200 appeared February 27 and remained at least until March 16. They were sometimes seen divided in bands of twelve to fifty, two or more of which would occasionally unite and sometimes all appeared to be together. They frequented the trees and shrubbery through the village.

44. *Lanius ludovicianus ludovicianus.* — Northern Loggerhead Shrike.

There were three or four pairs in the village. I saw none elsewhere. The two shot measured: length, 8.34 and 8.63; wing, 3.75 and 3.63 inches.

45. *Dendroica coronata.*—Myrtle Warbler.

Abundant everywhere in the village, along streams, and in the small oaks on high sandy ground.

46. *Dendroica vigorsi.*—Pine Warbler.

First seen and heard singing February 18. After March 4 they were singing frequently.

47. *Anthus rubescens.*—Pipit.

A flock of 100 or more were on the rye field at the Dairy. First seen February 10, and at intervals to March 16.

48. *Mimus polyglottos polyglottos.*—Mockingbird.

It was a pleasure to find these birds abundant through the village. I estimated there were twenty pairs of them in about one-half mile square, and I saw but a single bird elsewhere. The first song was heard February 12, a faint, whispered ripple in the throat. As the weather grew warmer the songs increased in volume and frequence, but a cold windy day checked the singing promptly. At first and for several days the songs were low and sweet, scarcely to be heard beyond a distance of fifty feet, and the bird did not open his bill in thus singing. With warmer days the song came with open bill and poured forth in volume. At times three or four birds could be heard in full chorus, and the various species imitated were almost legion. The first early low, sweet song seemed to contain no mimicry and was extremely pleasing. Great difference was observed in the vocal powers of different individuals. One near the station and another at the post office were

notable for continued song and extensive range in mimicry.

49. *Dumetella carolinensis.*—Catbird.

A few were seen along streams where shelter was abundant.

50. *Toxostoma rufum.*—Brown Thrasher.

Seen only along streams, and not abundant. I did not hear them singing.

51. *Thryothorus ludovicianus ludovicianus.*—Carolina Wren.

Rather abundant, and usually in pairs.

52. *Thryomanes bewicki bewicki.*—Bewick's Wren.

The last day of my stay, March 16, the only one noted was seen in the village near the power plant.

53. *Sitta carolinensis carolinensis.*—White-breasted Nuthatch.

Not abundant. I saw nine birds only.

54. *Sitta pusilla.*—Brown-headed Nuthatch.

Seemingly more abundant than the preceding. During the latter part of my stay they became quite active and indicated a mating spirit.

55. *Baeolophus bicolor.*—Tufted Titmouse.

Abundant.

56. *Parus carolinensis carolinensis.*—Carolina Chickadee.

Quite common.

57. *Regulus satrapa satrapa.*—Golden-crowned Kinglet.

Only one positively identified.

58. *Regulus calendula calendula.*—Ruby-crowned Kinglet.

Several seen.

59. *Hylocichla guttata pallasi.*—Hermit Thrush.

Frequently seen along the streams and occasionally on high ground.

60. *Planesticus migratorius migratorius.*—Robin.

Abundant. Occurred in flocks of five or six to forty or more.

61. *Sialia sialis sialis.*—Bluebird.

Common. I found them widely distributed and generally two to five or more in company.

The following species, while not seen, are given on seemingly reliable evidence:

1. *Gavia immer.*—Loon.

The "boys" at McKenzie's mill described this species accurately, even to the cry. One had been on the pond for several days and was finally killed.

2. *Lophodytes cucullatus.*—Hooded Merganser.

Several immature birds and at least one adult had been seen on McKenzie's mill pond. The description as to size, bill and crest was beyond question.

3. *Ardea herodias.*—Great Blue Heron.

The residents told me it was occasionally seen on the mill pond.

4. *Meleagris gallopavo silvestris.*—Wild Turkey.

Mr. Caddell, an intelligent resident, told me he saw one about February 20, six miles north of Pinehurst. Others told me they were yet sometimes shot in the county.

5. *Pandion hiliaëtus carolinensis.*—Osprey.

A few come in the spring to the mill pond and are seen plunging for fish.

6. *Phlœotomus pileatus pileatus.*—Pileated Woodpecker.

Several of the older residents know this bird well and report it as still to be seen in the back districts where larger bodies of timber yet stand. They call it Logcock, Blackcock, and Woodcock.

The following table indicates the number of observations on each species and the total of individuals. In a few instances this is misleading, without some explanation. I made constant effort to avoid a recount on any single trip; when returning over the outward bound route I counted only new species, but of course in starting out each day from the village I frequently recounted some seen on former days. This is true in regards to the Mockingbird, Robin, Junco, Field Sparrow, Cowbird, Cedar Bird, Rusty Grackle, American Pipit, and probably a few others. In general, however, it will indicate comparative abundance much more accurately than would be the case had I used the terms "common," "abundant," or "rare":

Pied-billed Grebe	2	2
Mallard	1	1
Woodcock	1	1
Killdeer	3	12
Bob-white	12	65
Mourning Dove	44	414
Turkey Vulture	45	191
Black Vulture	23	181
Sharp-shinned Hawk	1	1
Cooper's Hawk	1	1
Red-tailed Hawk	4	7
Red-shouldered Hawk	5	5
Sparrow Hawk	6	7
Screech Owl	1	1
Great Horned Owl	1	1
Belted Kingfisher	1	1

Nighthawk	2	2
Hairy Woodpecker	4	4
Downy Woodpecker	12	12
Red-cockaded Woodpecker	9	21
Red-headed Woodpecker	3	3
Red-bellied Woodpecker	1	1
Yellow-bellied Sapsucker	5	5
Flicker	56	89
Prairie Horned Lark	1	16
Blue Jay	22	29
Crow	39	74
Cowbird	4	680
Meadowlark	45	364
Rusty Blackbird	10	91
Goldfinch	7	24
Vesper Sparrow	18	235
Savannah Sparrow	2	11
Chipping Sparrow	15	87
White-throated Sparrow	26	92
Field Sparrow	32	209
Junco	85	1714
Song Sparrow	54	110
Swamp Sparrow	6	8
Fox Sparrow	9	25
Towhee	18	20
Cardinal	37	50
Cedarbird	16	1196
Loggerhead Shrike	9	11
Myrtle Warbler	49	142
Pine Warbler	21	22
Pipit	8	331
Mockingbird	84	112
Catbird	3	3
Brown Thrasher	7	7
Carolina Wren	33	35
Bewick's Wren	1	1
White-breasted Nuthatch	6	9
Brown-headed Nuthatch	12	23
Tufted Titmouse	38	49
Carolina Chickadee	23	38
Golden-crowned Kinglet	1	1
Ruby-crowned Kinglet	6	6
Hermit Thrush	26	27
Robin	37	318
Bluebird	75	117

SOME NOTES FROM PICKAWAY COUNTY, OHIO.

BY B. R. BALES, M. D., CIRCLEVILLE, OHIO.

In transcribing the following notes, it might be well to state for the benefit of those readers who do not reside in Ohio, that Pickaway County lies in the south-central portion of the state, and that Circleville, the county seat, is about thirty miles south of Columbus, the capitol.

Barn Owl (*Strix pratincola*).—Since writing my article on this species, (Wilson Bulletin Vol. XXI, No. 1. Pp 35), I have observed the following instances of its occurrence here:—January 21st, 1909; a male that had been shot at the ice house, along the Ohio Canal, within the city limits, was brought to me. It was in good condition and had two mice in its stomach. January 27th, 1909; a male was found along a road side, seven miles north of Circleville. The bird was wounded in the wing and breast, and was very much emaciated. November 10th, 1909; a wounded female was found flapping feebly about on the ground near Stage's Pond, five miles north of Circleville. It likewise was much emaciated. November 18th, 1909; a female that had been shot from a tree along Darby Creek, three miles north of Circleville, was brought to me. The stomach contained the remains of two mice. April 10th, 1910; discovered a nest in an elm tree along Darby Creek, three miles west of Circleville. This tree stands not over one hundred and fifty yards from the tree in which Dr. Howard Jones took the first Ohio set of this species. The eggs of the 1910 set were laid upon the rotted wood at the bottom of a cavity four feet deep and a foot and a half in diameter. The cavity was in the broken-off top of an elm tree, forty-five feet from the ground, was open at the top and contained five eggs, in which incubation varied from one-third to one-half. Both birds were in the nesting cavity when discovered and remained there until the climber had almost reached the cavity, when they emerged and flew to a nearby tree for a moment as if to get their bearings, when they flew to the tree in which the first Ohio set was taken

and disappeared within the cavity. This tree is well shown in Dawson's "Birds of Ohio" Pp. 373. The set taken by Dr. Jones was taken on May 27th, 1897, and fully one-half of the specimens of this species that have been brought to my notice have been taken in this immediate vicinity. It would seem as though most of the birds had been raised in one or the other of the two cavities. I have never heard of this bird showing a special attachment for a certain locality, but this case extending over a period of thirteen years, would seem to indicate, in this case at least, that such is the case. November 14th, 1910; a female that was shot from a barn three miles east of Circleville, along Hargus Creek, was brought to me by a farmer who was "afraid it would take his chickens," unaware that he had killed a mouser that was worth a half dozen cats.

Marsh Hawk (*Circus hudsonius*).—On May 19th, 1910, I had the good fortune to discover the fourth authentic set of this species ever taken in Ohio, (according to Dawson's "Birds of Ohio.") I was approaching a boggy meadow overgrown with marsh grasses in search of rail nests, when I saw a hawk perched upon a fence post in the distance, and remarked to my companion that the bird looked like a Marsh Hawk, but soon dismissed the thought from my mind as improbable. Proceeding well into the centre of the swamp, I flushed the female from her four mud stained eggs. The nest was built upon the ground, surrounded by a number of short, stunted wild rose bushes, where there was a slight elevation above the surrounding marsh, and the ground was therefore dry. The nest was composed mainly of "tassels" from the tops of corn stalks; several weed stalks entered into the composition of the nest, among which was a stalk of teasle and a large smart weed stalk. A tuft of corn silk lay at the edge of the nest. The female hovered about for a few moments, but soon joined the male, who had remained at a distance, when both flew away. The eggs were fresh.

Snowy Owl (*Nyctea nyctea*).—A specimen of this species

was taken near Ashville, eight miles north of Circleville, November 20th, 1910.

Short-Eared Owl (*Asio accipitrinus*).—This species is abundant in winter, but I have taken their nests in but one year — 1906 — in which year I took four sets. The first set was taken on April 21st and consisted of four eggs; the next set was taken on May 1st, and also consisted of four eggs; the third set was taken on May 11th, and consisted of five eggs, while the last set consisted of six eggs and was found on May 19th. All of these sets were found within a radius of one and one-half miles, and were in corn fields close to Darby Creek, near the trees where the two sets of Barn Owl were taken. All of the nests but one were placed upon the ground, with but a few bits of sticks and corn stalk, and an occasional feather from the mother bird to serve as a nest. The exception to this rule was built upon a pile of drift, composed of corn stalks, sticks and trash. I have searched the breeding grounds carefully each year since 1906, but have been unable to discover another nest, although the birds are as abundant as usual during the winter months.

Double Crested Cormorant (*Phalacrocorax a. auritus*).—A male that had been shot three miles north of Circleville, along the Scioto River, was brought to me October 21st, 1909. There were two birds, but the other luckily escaped. A female was shot in almost the same locality on October 26th, 1910. This specimen was also brought to me. A specimen of this species was shot while swimming in the Ohio Canal, within the city limits, about six years ago, but I find I have no record of the date, but remember it was in Autumn.

Bonaparte's Gull (*Larus philadelphia*).—A specimen of this species was shot while flying about the pond near the ice houses, within the city limits, on November 17th, 1908.

Common Tern (*Sterna hirundo*).—A specimen of this species was shot at the State Dam across the Scioto River, three miles south-west of Circleville, on June 25th, 1908. I was told by several people that they had seen it for almost a

week at this place, before it was shot. It seems unusual to me that this species should be found away from a large body of water at this time of the year. The sex of this specimen was not determined.

Ring Necked Duck (*Aythya collaris*).—A female of this species was brought to me on February 17th, 1909. It was taken from the Scioto River. On March 11th, 1910, two females were brought to me and on March 16th, 1910, I obtained another female. All were shot from the Scioto River, near Circleville.

King Rail (*Rallus elegans*).—While Dr. Howard Jones in his "Nests and Eggs of the Birds of Ohio," mentions seeing young of this species in this county, the first set of eggs was taken May 21st, 1906. There were eleven eggs in this set. On May 23rd, 1907, I took two sets of this species, one of ten eggs and one of twelve. On May 25th of this same year, I found another set of ten, and on May 29th, a set of eleven. On May 20th, 1908, I found a deserted nest of this species containing two mud covered eggs. Excesive rains had raised the water in the swamp, and had flooded the nest. On May 22nd, 1908, at another swamp, I discovered a nest containing eleven eggs. On May 14th, 1910, I found a nest containing eleven eggs, and on May 19th another set of eleven. One who has never seen a set of these beautiful eggs in the canopied nest, cannot realize the beauty from a description. It must be seen to be appreciated.

Least Bittern (*Ardetta exilis*).—Rather common summer resident in suitable localities, especially at Calamus Pond, three miles west of Circleville. This pond, or swamp, is from one-fourth to one-half mile across and the water is from one to three feet deep. It is thickly dotted with buttonwood bushes. Wild rose thickets fringe the shores; saw grasses, tall water grasses and calamus or sweet flag (from which the pond receives its name) are found in its shallower places and cat tails further out. It is an ideal nesting place for this species; in June, 1907, I found fourteen nests between the fourth

and the twenty-first. The nests are mainly placed among the saw grasses in shallow water and are situated from six inches to two and one-half feet above water; eighteen inches is the average height. The nests are composed of saw grass blades, short lengths of smartweed stalks, slender twigs from the buttonwood, and about half the nests examined are lined with finer grasses; at the best the nests are very flimsy, frail and loosely put together. Occasionally a nest is found composed almost entirely of a tall round water grass, but nests so composed are always built in a clump of this variety of grass. Saw grasses are usually bent over to form a platform on which to build the nest; these grases are often bent over a small branch of buttonwood to give stability to the platform. An occasional nest is built among the diverging twigs of the buttonwood bush, much in the maner of a green heron nest, but nesting sites of this type are rare. The full complement of eggs is usually four or five, although I have taken highly incubated sets of three, and have seen nests containing six young. Fresh eggs have been taken between June 4th and June 21st, although on June 18th, 1908, I found two nests containing young. The young in the first nest discovered were likely almost a week old and were very odd looking fellows. They were covered with a yellowish down except about the eyes, where the greenish skin was bare; the legs were yellow with a green tinge on the dorsal surface. Another nest discovered the same day contained six young in which the pinfeathers were showing. It is doubtful if this nest would have been discovered, had I not seen one of the young birds clinging to one of the round water grasses fully a foot above the nest. While perched upon the slender, swaying water grass, they have a peculiarly pert and saucy look that is ludicrous in the extreme. They are excellent climbers and use their long necks and bills in climbing by hooking the head over the perch and using it as a sort of hook to aid them in scrambling up. The feet are very strong. The young in

this nest tried to peck my hand as I placed it above them; they acted like trained soldiers, all pecking at exactly the same time, as if at a word of command.

Mockingbird (*Mimus polyglottos*).—This species is be coming more common each year. Although straggling birds had been seen previous to this time, the first nest was discovered May 21st, 1907. It was placed among the diverging twigs in an osage orange hedge fence, four miles east of Circleville, along a much travelled road and contained four eggs. The next set taken in the county was taken by Mr. W. Leon Dawson, June 2nd, 1909. Mr. Dawson was spending the day with me and the birds, and while we were driving along a road, eight miles west of Circleville, we heard the male singing. A hedge fence grew along one side of the road, and as the cover was the right kind for nests of this species, Mr. Dawson began searching the hedge and soon found the nest, which contained four eggs apparently well along in incubation. I took another set of four of this species on June 1st, 1910, from a red haw bush in a blue grass pasture about a mile from where the Dawson set was taken. This locality has been noted for several years for its mockingbirds. One pair nesting near the residence of Mr. W. H. Reid, a close bird student, reared three broods in 1908. I shot a male from a wild rose thicket at Calamus Pond on February 21st, 1909. The stomach contained fruits and seeds of wild rose. The mockers that breed near Mr. Reid's arrived from the south, March 11th, 1908, and March 28th, 1910. All of the nests of this species that have come under my observation have been rather loosely put together, but all have been distinguished by having the lining of fine pale yellowish brown rootlets that contrast sharply with the dark body of the nest.

A PARADISE FOR LONGSPURS.

(Notes on the Birds of Addison, Illinois.)

BY G. EIFRIG.

First, a few words on the topography of this section. Addison is a small village, twenty miles west of Chicago, in Du Page County, hence it is in the prairies. which, however, at this point, reach their greatest altitude for this section of the state, namely, 350 feet. It is a rather prosaic, uninteresting region, being a purely agricultural district, with nothing but fields as far as one can see. There are next to no trees not even along ditches and creeks, excepting a few tall cottonwoods surrounding the farm-yards, and a rather large wood a half mile northeast of my residence. All around us there is more woodland to be seen, as e.g. at Glen Ellyn, about four miles from here, the home of our secretary, Mr. B. T. Gault, which is a very pretty, park-like place. The Addison woods is two miles long by one mile wide, and is mainly composed of Burr, Scarlet, Red, and White Oaks, Hickory, Elm, Ash, and Hazel, and several species of *prunus* bushes.

In the open parts as well as in the woods nearly every depression is a small swamp, or even pond. Those in the woods are grown over with Water Hemlock (*Cicuta maculata*) and Button bush (*Cephalanthus occidentalis*), the latter giving them a somewhat southern appearance. Here the Green Herons build, Yellow-throats are plentiful, and I even found a female Prothonotary Warbler at the edge of one of them, a rarity for Du Page County. The swamps in the open are overgrown with cattails, *sparganum*, *scirpus*, etc., and are difficult to negotiate, owing to the soft bottom, and to the hummocks and holes made by the cows, which are let in in the fall and late summer, when there is little if any water in these places. The last summer (1910) being exceptionally dry here, all swamps and ponds were dry, so that in one at least the Pied-billed Grebes, which had been there, had to allow one a good look at them, as the water was too shallow for diving, and later disappeared entirely. One that I cornered

lay motionless across a clump of old reeds, etc., thereby rendering itself nearly invisible. Here are also the homes of *Rallus elegans, virginianus,* and the Sora, as well as hordes of Redwings, Long-billed and Short-billed Marsh Wrens, and Swamp Sparrows. Several times I also flushed a Short-eared Owl. But these wet places contain rarer things than all these. March 28 I took a Henslow's Sparrow, and August 31 a Nelson's in one of them. Numerous springy places in pastures or near the sloughs harbor many Wilson's Snipes, Pectoral and Red-backed Sandpipers in migration, and a few Kildeer all summer. Rarities for this country that I saw here, were a Wilson's Phalarope (*Steganopus tricolor*) on May 12, a Black Tern on July 20, and near by a flock of about fifteen Golden Plover on May 10. It is surprising how late and how early Greater Yellow-legs are here; the last were here May 23, and the first I noticed already July 19.

When an ornithologist goes to another place to stay temporarily or permanently, he always looks forward with keen expectation and pleasant anticipation, to find out what species of birds, hitherto not seen in the flesh, the new places will bring him. So it was in my case. Naturally northern Ontario is a more interesting place, both scenically and biologically, than Du Page County, Illinois. And some birds I expected to see here without going far, did not materialize till now, e.g. the Yellow-headed Blackbird, Dickcissel, Tufted Titmouse, Bob-white, Cardinal, Chat, Bank Swallow, etc. Even the Wood Thrush is rare here in summer; also the Whippoorwill and the Rose-breasted Grosbeak. But still there are surprises awaiting one, at least during migration, and mainly in the large woods, with its mysterious little sloughs. A rarity in most places was here in surprising numbers last spring, namely the Gray-cheeked Thrush. May 24, I must have seen at least 200. There was a noticeable disparity in size, too, among them (Bicknell's ?)—. I also took Tennessee, Cerulean, Connecticut, Blue-winged, Palm, and other

warblers here. The other warblers and the flycatchers are here in proportion. The Blue-gray Gnatcatcher is also here, even as a breeder.

One of the most interesting finds I made here, is a herony of Black-crowned Night Herons. It consisted of about thirty nests in a wet corner of the woods, adjoining a field. They were from thirty to sixty feet up in ash trees, and on June 11 contained two to four eggs each; no young were noticed. Another member of the same family that I was glad to meet with here in the swamps mentioned above, is the Least Bittern, and naturally its larger congener also. On the other hand such otherwise common birds like the Mourning Dove, Sparrow Hawk, and even the Kingfisher are strangely absent, although for the latter a creek with minnows and steep banks here and there, meanders through the landscape.

In the line of birds of prey, we have here the Red-shouldered, Red-tailed, Marsh, Cooper's, and Broad-winged Hawks, the last two rare. The Barred Owl is said to be in the woods, and the Screech Owl is often heard singing its to most people unpleasant song from orchards and shade trees. A few Ruffed Grouse (*Bonasa umbellus*) are said to be still in the woods nearby, and Prairie Chickens are met with now and then. One day I flushed a flock of about twenty-five a few miles from here — a new and interesting experience for me — and I was surprised to see how high they would rise — a flight quite different from that of the Ruffed Grouse; more like that of a large Meadowlark.

In the finch family we have quite a selection: Goldfinch and Indigo Buntings, Song, Swamp, Vesper, and Savanna Sparrows, all common breeders. I gladly welcomed again an old acquaintance from Maryland, that I had missed in Canada, the Towhee. Of this I found a nest on May 28, containing two eggs of the owner and three Cowbird's eggs. Yes, the finch family brings us to the heading of these notes. As a place for Longspurs prosaic Addison shines. About the end of October they come in many small flocks and take possession of

the empty fields, i.e. empty for us, but full for them, namely full of weed-seeds. They prefer the high wind-swept fields, and can often be seen flying to and fro, from one rise to another. Some days they are tame, allowing of close approach, on others they are extremely shy. Last spring, with its cold weather, they stayed at least till May 5, when I took several in nearly full nuptial dress. Usually they are gone before this, as I am told. They are difficult to see when on the ground, especially in their winter dress. The flocks seem to be made up of *lapponcus* mainly, although on April 20 I saw one Smith's Longspur (*C. pictus*). Nearly every field contains one or several little flocks, of from five to twenty-five each, busily gleaning the weed seeds, of which their stomachs and crops, when taken, are full to bursting. On their restless days, or when being scared up from several fields, the air is sometimes literally alive with them, when also flights of up to a hundred can be seen. Their flight is somewhat erratic, but nevertheless, as well as its call and flight notes, characteristically finch-like. Other members of the finch family are the White-throated, White-crowned, Fox, Lincoln's and Tree Sparrows; also Juncos, most of which are, of course, only migrants, while the last two are to some degree winter residents. Thus, to-day (December 17), I saw a flock of Tree Sparrows, Juncos and Redpolls. Early in November, Pine Siskins were common here, and a few Pine Grosbeaks were seen, which, together with the fact that Evening Gros-

beaks had been seen at several places in the neighborhood, makes me think that somewhat abnormal food or other conditions must be prevailing up north, to bring these hardy northern birds down here so early.

LECONTE'S SPARROW AT HOME NEAR CHICAGO.

BY GERARD ALAN ABBOTT.

Leconte's Sparrow has been regularly observed and recorded from the Calumet region, around Chicago in April. From then until September most of the migratory sparrows are north of Illinois and Leconte's has been classed only as a transient in this vicinity. Personally I neglect small birds in my zeal to follow and study the water fowl. Students generally manifest a preference for the large birds, but as their experience afield becomes more scientific, insectivorous and seed-eating birds receive attention.

On May 21, 1910, the afternoon was cool and rainy. I was searching for Bartramian Sandpipers along the grassy fields bordering a tributary of the Calumet River. The locality was a favorite haunt for Henslow's Sparrow, spring and summer. I heard several indistinct chirps as I moved slowly up the incline, carefully examining each clump of grass. One little bird was particularly demonstrative, and such a ventriloquist I did not catch a glimpse of him.

When two hundred yards above the marsh, I stooped intuitively and parted the vegetation, exposing in a little clump of coarse grass, a neat little nest supported on a mass of last year's herbage two inches high. The structure was deep and composed entirely of fine, dry grass, very substantial for a "Ground Bird's Nest."

When I returned to this meadow four days later, the nest was more difficult to locate than before, as I had misjudged the distance of my land marks. Upland Plover and Meadow Lark both reluctantly exposed their eggs, while I explored tussock after tussock trying to locate the little Sparrow's nest. Finally the sign loomed up before me and I was delighted to peer once more into the coveted clump and observe that the nest now contained two freshly laid eggs of Leconte's Sparrow.

May 28, 1910, I collected the set. The bird flew from the

nest when I was within ten feet of her. The flight was short and feeble as she darted slowly over the weed stalks, soon dropping into cover. The male though making himself heard, was not conspicuous in any other way.

The eggs show a distinct individuality. Unlike the products of either the Grasshopper or Henslow's Sparrows, the background is ashy gray, thickly and rather heavily blotched with shades of brick red and light brown. In shape they resemble the typical Bobolink's egg. In size they are smaller than any of our other meadow birds except the Short-billed Marsh Wren.

June 12, 1910, my friend, Mr. Ford, had the good fortune to find another set of four within seventy-five yards of this spot. The nest and eggs closely resembled the former set. The eggs are slightly lighter in coloration and the nest less elaborate. This, I am quite sure, was a second set from the same bird. Mr. Ford, like myself, realized the value of such a find and spent some little time in watching the parent and noting her actions.

June 26, 1910, Charles Richards located a nest and three eggs of Henslow's Bunting in the same area. This bird is not an uncommon summer resident here and I presume at least half a dozen pair nest along the river bottom in this neighborhood every June.

Unlike Leconte's, this nest was placed on the ground and lacked the substantial appearance shown in the general construction of the two nests of Leconte's sparrow. The eggs of the Henslow's Sparrow had a beautiful light green background which partially disappeared when the contents of the eggs were removed. The spots are almost entirely clustered about the larger half of the egg and tend to form a distinct wreath. The markings are in the form of bright reddish specks and dots. In shape the eggs are quite pyriform.

AN OHIO NEST OF THE BLACK AND WHITE WARBLER.

BY B. R. BALES, M. D., CIRCLEVILLE, OHIO.

It was while on a collecting trip in Hocking County, Ohio, on May 29th, 1910, that I discovered this rare Ohio set. A Ruffed Grouse had been flushed, and while searching for a possible nest, my companion called my attention to a small bird that he had flushed from the ground. I immediately recognized it as a female Black and White Warbler(*Mniotilta varia*. In a few moments she flew to the base of a small sapling and disappeared. Close search soon revealed her upon the nest. I had a small stick in my hand and pushed it toward her to flush her from the nest; as the end of the stick almost touched her, she left the nest and hopped up and perched upon the stick, the other end of which I held in my hand. She would have been a model subject for the camera, but unfortunately, I did not have it along.

The nest was sunk into a depression in the ground at the base of, and overhung by, the roots of a slender sapling growing upon a steep hillside that was overgrown with underbrush and saplings, and was composed of dead leaves, strips of inner bark of some tree and slender strips of grape bark, nicely cupped and lined with hairs of raccoon and opossum.

It contained five eggs that were advanced in incubation, in fact, they would have hatched in another day; in color they were creamy white, speckled and spotted and blotched with red-brown and lavendar. The markings form a wreath at the larger end; the deep shell markings of lavendar are very prominent at the larger end also.

Incubation being so far advanced, it was difficult to save them, in fact, one was broken, two cracked and the other two chipped in blowing.

The measurements in inches of the four eggs saved, are as follows:— .69 x .49, .68 x .49, .68 x .49, .68 x .50.

The fact that the eggs were almost at the point of hatch-

ing, and that a steady drizzle of rain was falling at the time, probably accounts for the extraordinary boldness of the female.

Dawson, in "The Birds of Ohio," states, "I am not aware of a nest's being definitely reported in the state. During the second week in June, birds were feeding full grown young in the ravines opening into the valley of the Hock-hocking, near Sugar Grove." This nest was found about one mile west of South Bloomingville, Hocking County, and is about fifteen miles (as the crow flies) south of Sugar Grove.

This, therefore, is probably the first nest "definitely reported in the state." The environment in this portion of Hocking County is evidently ideal for this species, as the land is cut up into deep ravines and valleys with corresponding steep, brush-overgrown hillsides. I heard several singing males the same day that the nest was discovered, but could not locate another nest.

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Editorial

Before the next issue of the Bulletin finds its way into the mails there will have passed the twenty-fifth anniversary of the founding of the organization out of which our Club grew. On May 30, 1886, there was drawn up by one L. Otley Pinder, a constitution of the Young Ornithologists Association. Whatever of publication was done in the first years of the organization appeared in the pages of the old "Oologist." Then "The Curlew" spread its pinions—and died. Next the "Ornithologists and Oologists Semi-Annual" mothered the infant organization under a changed name. Next the organization essayed two numbers of a quarterly (The Wilson Quarterly), found the burden too heavy, and the following year published two abbreviated numbers of a "Journal." This was neap tide. Thus ended the "Old" order. Accomplishment—five volumes of varying character—a rising and a falling tide. The "New' order was ushered in with three small, largely business, "Bulletins," followed the next year (1895) with

two Bulletins containing reports. Then began a regular series of six issues a year, albeit most of them were small and thin. The opening of the new century saw the number in the year reduced to four, and the size more than doubled. And thus we reach the point of this brief sketch. The last volume was much the best that our organization has accomplished, but the present volume will surpass the last one. There are now ready for the printer three exceptionally fine articles which could not find room in the present number for the June issue, and Mr. Frank L. Burns' monumental work on the Broad-winged Hawk will be printed as the September number. It is waiting for the printer. It will cover some 150 Bulletin pages, and will be well illustrated. This will be Mr. Burns' third "Monograph." It is the most complete life history that has ever been written of any bird.

The present number of the Bulletin has been been held up for want of mailing envelopes. The order was in for three months before it was filled. The manufacturers of mailing envelopes seem to be doing a marvelous business!

The editor's promised report of the summer work done on Pelee Island will have to be put over until a supplementary summer's work is done on Point Pelee under simliar conditions. Already plans are under way for that work, to occupy the latter part of the coming summer.

The Falcones series will be resumed with the June number. It has not been possible to secure all of the materiai necessary to continue the series earlier.

Field Notes

FALCO RUSTICOLUS IN OHIO.

During a visit at the Ohio State University in November, 1910, Prof. James S. Hine showed me a mounted specimen of *Falco rusticolus* in the museum of the University. The bird was shot on January 30, 1907, at Washington C. H., in Ohio. The Professor stated that somewhere there was a published note of this, but it was not in any bird magazine, and I think it worth while to bring this hiden record to light in our Bulletin, where the ornithologists can read it and have ready access to the record.

New Bremen, O. W. F. HENNINGER.

COWBIRD.—Mr. Harry B. McConnell's mention of the appearance of a Cowbird at Cadiz, Ohio, February 23, 1906, in the Bulletin in Vol. XXII, No. 2, pp. 125, recalls a similar incident. On January 8, 1909, a farmer telephoned me that he had shot a black English Sparrow from a flock that was feeding about his hog pen; of course I was anxious to see it, and he sent it to me. It proved to be a male Cowbird in excellent condition. Inquiry elicited the fact that it was the only one in the flock. The date only, is unusual, as I have very frequently seen mixed flocks of English Sparrows and Cowbirds feeding together in the fall. The only places I have seen them thus feeding together, however, has been in the feeding lots where hogs are fed the cobs of sweet corn, that are hauled from the canning factories.

ALBINISTIC ROBIN.—This specimen was brought to me on October 3, 1910, by a man who had shot it from a flock of robins. It is evidently a "bird of the year." The bird is not a complete albino, but is colored as follows: Throat, white with dusky streaks; head and back, pale yellowish; primaries and tail feathers, white with a faint yellowish tinge; upper tail coverts, paler than the back; lower tail coverts, white; breast and sides, pale rufus (much paler than normal); bill and feet, flesh color.

Circleville, Ohio. B. R. BALES, M.D.

A PRIVATE BIRD PRESERVE.

That one of the largest breeding colonies of herons to be found in this country is located on lands belonging to the McIlhenny family at Avery Island, Iberia Parish, Louisina, may be news of much interest to most of our readers.

In a letter to the writer, dated November 3, 1910, and accompanied by many interesting photographs taken in the rookery, illustrating the nesting habits of the birds, Mr. Edwd. A. McIlhenny estimates that more than 15000 pairs of Gulf Coast birds nest annually on the "Island," embracing several species of herons, among them 2000 pairs of the Little White or Snowy Egret (*Egretta candidissima*) which, as many of us are aware, suffered most dsastrously (verging on extermination) at the hands of plume-hunters.

In the opinion of Mr. McIlhenny the Avery Island Preserve is the most extensive one of its kind in the United States.

Such effective bird-protection work is most commendable and encouraging.

Let us hope earnestly that it may be patterned after and introduced successfully in other parts of our country as well.

We need many such places, and, if the national and state gov-

ernments cannot so readily create and perpetrate them, private citizens happily placed, and with the means and inclination to do so, can—taking the results of this Louisiana enterprise as an illustration. B. T. G.

EXCEPTIONAL OHIO RECORDS.

The unusual opening of winter in December and its continuance into the early part of January put the most of Ohio on the winter basis, as far as bird life is concerned, at least two weeks earlier than usual. From a purely local standpoint this condition should result in the influx of some of the more hardy winter birds early and bring into the region birds which pay a visit to the state only once in a number of years. Reports coming from northern Ohio indicate that there was a decided influx of at least two exceptional species.

Bohemian Waxwing (*Bombycilla garrula*). During the greater part of December, all of January, and until February 17, a flock of a half dozen birds lived in two northern spy apple trees, which still contained some frozen fruit, at the writer's home in Birmingham. They left when the robins came and worried them. Their peculiar squeaky twittering note was constantly mingled with the conversation coming from a neighboring hen yard. This visitation seems to be the first recorded one for this county.

Evening Grosbeak (*Hesperiphona vespertina vespertina*). Since the 1890-1 visitation to northern Ohio there seem to be no other records until this winter, just twenty years later. The exact date of first occurrence is lacking, and is of minor importance since for Oberlin a flock of six birds have been present (is still present) since early in December. Mr. H. G. Morse reports one brought to him on January 21st, shot from a flock which was about a mile south of Huron. Mr. Frank T. Cartwright, Jr., writes me that there have been two of these birds in Delaware this winter. Mr. E. A. Doolittle, of Painesville, Ohio, reminds me that the record of this species on March 20, 30, and 31, 1909, which he reported to me at that time, never appeared in the Bulletin, through an oversight of mine. I am glad to correct that omission as far as possible now by calling especial attention to the 1909 occurrence, which seems to be the only one for Ohio for that winter. Mr. Doolittle also reports a single bird at his home on March 13 and 16 of this year.

These records, with reports of another visitation to New England, seem to indicate that conditions north were again such that the birds were forced to find new feeding places. We may proba-

bly safely assume that these southward movements are caused by failure of food in the more northern parts of the bird's winter range, but what seems to be corroborative evidence is usually lacking. Such evidence is given by Miss Althea R. Sherman, who writes that in that part of north-eastern Iowa, near McGregor, the severe weather of last April killed the mountain ash fruit buds so that the grosbeaks find none there this winter. It should be possible to study the conditions which force these northern birds south periodically. Coöperative study should be carried into this field.

LYNDS JONES.

RECORDS FROM THE TRI-RESERVOIR REGION IN OHIO IN 1910.

Besides the interesting records of Otocorys alpestris alpestris and Ampelis garrula given in the March, 1910, number of the Bulletin, the following seem worthy of special mention:

1. February 21st, Bonaparte Gull flying over the canal.

2. March 3 and November 21, each date, one Short-eared Owl.

3. March 5, first Red-winged Blackbirds. Earliest date in region.

4. February 16, Snow Geese seen. Exact status of species not to be recognized.

5. March 12, two male Redheads shot at Loramie Reservoir. First record for this reservoir, while it is common at the Lewiston. The same date brought the Baldpate female shot, also an early date; March 13 bringing in the first Lesser Scaup, March 14 the first Pied-billed Grebe, both earlier than in 1909.

6. A fine male Shoveller shot on April 9, Loramie Reservoir.

7. A fine female Osprey shot on April 25, Loramie Reservoir.

8. A fine female Loon shot on April 21, Loramie Reservoir. The Green-winged Teal appeared March 18, a week earlier than in 1909, the Woodcock March 16, the Blue-winged Teal March 29, the Pectoral Sandpiper March 22, (earliest state record), all very early dates.

9. The Prothonotary Warbler was seen, but not taken May 10 at the Grand Reservoir; the same date the Sanderling showed up, my first and only spring record for this species.

10. The Common Tern was seen May 8, the Black Tern on May 10.

11. May 25 a nest of the King Rail, with eleven eggs, was found in the tall grass of a small pool of water not deeper than twelve inches, perhaps sixty feet square, not more than seventy-five feet away from the public highway.

12. On September 1, a rainy, squally day, thousands of Sandpipers on the Grand Reservoir. On a three and a half mile strip I counted over 900 Semipalmated Sandpipers, something like 300

Least Sandpipers, 200 Semipalmated Plovers, 18 Black Terns, 2 Sanderlings, 1 Pectoral Sandpiper, 7 Golden Plovers, 2 Black-bellied Plovers, many Greater Yellow-legs and Yellow-legs and Wilson's Snipe.

13. On October 25 I shot an immature male of the Red-backed Sandpiper at the Grand Reservoir, my first positive record for this region.

14. On November 15 I shot and saw my last Woodcock for the season, a good late date, and on December 3 a fine female of the Wood Duck was shot at the Loramie Reservoir and brought in to me on December 5. W. F. HENNINGER.

NOTES FROM NORTH-EASTERN ILLINOIS.

The fall of 1910 seems to have been exceptional in bringing to us the Evening Grosbeak at an unusual date. Other species of interest recorded were the Red Crossbill, seen here November 12, though unquestionably heard as early as October 10, and the Siskin, which was reported from Addison, this county, by Professor Eifrig.

Here the Siskin's movements appear to be very erratic. Evening Grosbeaks were noted at Lincoln and Jackson Parks, Chicago, during the latter half of October, and reported from Lake Forest more than ordinarily plentiful. A solitary female was observed at Glen Ellyn by the writer November 2, the first appearance of the species here to my knowledge since December, 1889, during which season it was seen at several places in this corner of the state. This bird did not tarry long, as was to be expected in the shortage of its accustomed food, the persistent fruit of the box-elder, which the past spring was entirely killed in the blossom by the April freeze-up. This fact may account for the early arrival of Grosbeaks this fall, as the abnormal weather of that period covered a wide area. It will doubtless be shown, too, that the birds have gone much farther south this year than usual on that account.
that account.

In a letter to the writer, dated January 22, 1911, Miss Elizabeth Eldridge, of Plainfield, contributes some interesting facts relating to the present status of the Prairie Hen in this part of the state. She writes that during a walk last November sixty of them were counted in a pasture near their home, and since then others, as many as twenty at one time, have come about the place.

Last season a brood of nine was hatched from a nest in the roadway not far from their house. Such reports are encouraging compared with one received last fall from St. Charles on the Fox

River west of here. It was through my friend, Ruthven Deane, of Chicago, and to the effect that one farmer near there was poisoning the Prairie Hens, as a result of the damage they were doing to his crops. What a mind and what reasoning! This of course is an isolated case. Otherwise it would offer a splendid opportunity for effective institute work.

Miss Eldridge mentions the Flickers as wintering in her locality this season.

It is interesting to note that our first spring arrival here this year was the Flicker, two being seen February 26. To-day, March 3, Robins are in evidence, and in song.

December 8 was made memorable by the presence of the Pine Grosbeak on our place. With us, a rare late fall and early winter visitant, my records are few. There were two on this occasion, one a rich red male, the other in female dress. The writer discovered them together at 1 p. m. feeding upon the persistent fruit of the snowberry, *S. racemosus*. It was an interesting sight; the birds, and the clusters of partly withered fruit; the snow-covered ground, and bright sunlight, making in all a combination of rare merit.

Glen Ellyn, Ill. BENJ. T. GAULT.

Personals

OUR MEMBERS HERE AND THERE.

Mr. W. M. Dutcher, we understand, is critically ill at his home in Plainfield, N. J. We hope he will be spared to continue his great work for the protection of birds.

Lately we read in a newspaper that the father of Dr. Jon. Dwight, Jr., died at the ripe old age of eighty years. We extend our heartfelt sympathy to the Doctor in his bereavement.

W. Lee Chambers has moved from Santa Monica to Los Angeles.

Bradshaw H. Swales spent the beginning of the new year in the East.

Dr. Louis B. Bishop has been spending the winter in northern Africa, at Biskra, Algiers, studying the birds and mammals of the northern Sahara. Decidedly "dry" territory!

Prof. Wilfred Osgood, our new member, is in Venezuela collecting for the Columbia Field Museum of Chicago.

We welcome Dr. Howard E. Jones, of Circleville, Ohio, one of the famous "old timers" of Ohio in Ornithology, in our midst.

Mr. John Lewis Childs of Floral Park, N. Y., has sent us the

last copy of the "Warbler," containing a catalog of the mounted birds, nests, and eggs of his great museum. It appears to be thoroughly scientific, well equipped, and evidently second to none.

J. Parker Norris, Jr., of Philadelphia, Pa.; Troup D. Perry, of Savannah, Ga.; Gerard Alan Abbott, of Chicago, Ill., all well known Oölogists, have recently joined our ranks. The Wilson Club is glad to get good Oölogists any time.

Isaac E. Hess, of Philo, Ill., is spending February in the Everglades region of Florida on business. He will keep a sharp lookout for the birds.

Prof. James S. Hine, an entomologist of international repute, and Prof. W. C. Mills, an able Librarian and great archæologist, both from the Ohio State University, and both good ornithologists too, have come into the fold, the first men of that insttiution to be with us. We hope others will follow!

Prof. Zeno P. Metcalf, of Raleigh, N. C., spent part of his six weeks' vacation last fall at the O. S. U. in Columbus, Ohio, where we had the pleasure of making his personal acquaintance.

Prof. G. Clyde Fisher, of Funiak Springs, Fla., is spending a year at the Johns Hopkins University, Baltimore, Md.

Mr. Norman A. Wood reports quite a good many interesting bird notes from his trip to the ~~Shivey~~ Charity Islands last fall, but he says there were no mammals at all!

We understand that our member, A. C. Bent, of Taunton, Mass., is to fill the position of the late Maj. Chas. E. Bendire and Dr. W. L. Ralph, as Oölogical Curator at the U. S. Nat. Mus. We think the selection is a good one and that he is splendidly fitted for the position. Wilson Club men are rapidly coming to the front!

Rev. P. B. Peabody was quite successful in his search for the nest and eggs of the Yellow Rail in North Dakota last summer, and also in the finding of Henslow's Sparrows eggs at his home in Kansas.

Mr. Frank M. Chapman, the distinguished eidtor of Bird-Lore, and Assistant Curator of the Am. Mus. of Nat. Hist. in New York City, etc., etc., has joined the Wilson Club. We hope the learned author will prove a great help to our Club and Bulletin!

Louis Agassiz Fuertes, the famous artist, and Dr. Wells W. Cook, of the Biol. Survey, the great record keeper of bird migration in the U. S., have become members of our Club, which is adding many new celebrities to its ranks.

Statement

Through a correspondence with Prof. R. Ridgway we have found out that he did not receive many copies of the Wilson Bulletin in the past, through no fault of the editor, however, to whom no blame is attached. Hence, of course, it was impossible for him to quote the Wilson Bulletin in his work on "The Birds of Middle and North America," for you cannot quote from a magazine that you have not received. Under these circumstances the statement that Prof. R. Ridgeway "persistently ignored" the Bulletin, as stated in the December, 1910 issue, is incorrect and is hereby retracted.

W. F. H.

Publications Reviewed

Catalogue of Canadian Birds, by John Macoun and James M. Macoun. Ottawa, 1900.

The Catalogue proper covers 761 pages exclusive of 26 pages of prefatory matter and index. It is avowedly a compilation, and as such shows a great amount of painstaking labor. Since the authors are primarily botonists rather than ornithologists, one could hardly expect to find in such a compilation anything more than a faithful reproduction, in abridged form for the most part, of published writings relating to Canadian birds. We miss some of the later publications on the region, notably the Point Pelee list by Taverner and Swales, which appeared in this magazine. Nor do we find evidence of discrimination in citing records. Rather, the reader is left to use his own knowledge and discrimination in accepting the cited records. We heartily commend the modest position taken by the authors in disclaimnig perfection for their work, and earnestly calling for corrections and additional known in order that we may have a better basis for knowing the reasons for the invasions of the United States by species whose normal winter range lies within Canada. L. J.

Birds and Mammals of the 1909 Alexander Alaska Expedition.—Harry S. Swirth.

This Bulletin has noticed briefly the work of Harry S. Swarth among the lower coast island of Alaska, during the year 1909, the published results of which expedition have lately appeared, bearing the Berkeley Press date of January 12, 1911.

It is in bulletin form, constituting No. 2 of Vol. 7 of the zoological publications of the University of California.

This expedition was organized and financed during that year by

Miss Annie M. Alexander, the report comprising a well printed document of 163 pages, including plates and maps. Eighteen pages are devoted to the introduction and descriptions of localities visited; 86 pages to a check-list and notes on the birds of that region, the remainder, for the most part consisting, of a report on the mammals seen and collected.

We will not dwell at length upon the material results of the expedition further than to say that, of the 137 species and subspecies of birds listed, specimens of 106 are represented in the collection.

Several localities visited were practically destitute of results, and animal life, generally speaking, was plentiful at comparatively few places. The work among these islands was hampered considerably by the lack of suitable camping sites, many times the almost impenetrable character of the country and bad weather conditions.

With the birds much space has been given to their distribution, relative abundance, conditions of moult and feather-coloration.

We would like to have seen a greater number of breeding records and notes pertaining thereto, but conditions confronting the author doubtless were responsible for their crowding out, or the impossibility to secure. The grouse have received considerable attention, and some pertinent suggestions are made as to the possibility of recognizing a new race of the Sharp-shinned Hawk from that region, though in this case, as with other supposed subspecies, speculations are entered into cautiously. Among the common birds of that region were the Alaska Bald Eagle, Northern Raven and the coast form of the Northwestern Crow. With the exception of the Harris, woodpeckers were uncommonly scarce. The distribution of the Song Sparrows proved an interesting study, as also the movements of the warblers.

The shyness of the smaller Thrushes and Robins was puzzling to account for.

An unlooked for and interesting sight was the number of Black Swifts met with at two places.

Several species of birds listed are considered new to the Alaskan fauna, among which may be mentioned the preceding, also the Vaux Swift, Cedar Waxwing and Mountain Bluebird. The Blackpoll Warbler is remarked on as a straggler from the interior.

The mammal portion of the report is important, covering as it does the larger part of the scientific results of the expedition, but it is outside the province of this magazine.

Methodically, technically and typographically this publication ranks high; it clearly displays the zeal of its author and should be regarded as representative of the excellent work being produced

by the Berkeley institution, of which the following is a list of its most recent publications pertaining to the study of birds, viz:—

Birds of the University Campus, by Joseph Grinnell. Significance of White Markings in Birds of the order Passeriformes, by Henry Chester Tracy. An Apparent Hybrid in the Genus Dendroica, by Walter P. Taylor. The Modesto Song Sparrow, by Joseph Grinnell. The Linnet of the Hawaiian Islands: A Problem in Speciation, by Joseph Grinnell. B. T. G.

Election of Officers

In the recent Club election fifty-eight ballots were cast, resulting in the following choice of officers for 1911, viz.:

For President—Frank L. Burns.

For Vice-President—William E. Saunders.

For Secretary—Benj. T. Gault.

For Treasurer—Walther F. Henninger.

For Executive Council—Lynds Jones, Harry C. Oberholser, James H. Fleming.

C. W. G. EIFRIG,
Judge of Election.

Members of the Wilson Ornithological Club

ACTIVE MEMBERS.

Abbott, Clinton G., 153 West 73d Street, New York, N. Y.
Allen, Dr. Glover M., 16 Louisburg Square, Boston, Mass.
Armstrong, E. E., 2148 N. Sawyer Ave., Chicago, Ill.
Baird, Robert L., Troy, Ohio.
Bales, Dr. B. R., Circleville, Ohio.
Barnes, Hon. R. M., Lacon, Marshall Co., Ill.
Barrows, Prof. Walter B., East Lansing, Mich.
Bartsch, Prof., Smithsonian Inst., Washington, D. C.
Beers, Henry, 91 Denver Ave., Bridgeport, Conn.
Bent, A. C., Taunton, Mass.
Bishop, Dr. Louis B., 356 Orange St., New Haven, Conn.
Blain, Alex. W., M.D., 131 Glenwood Ave., Detroit, Mich.
Bowles, J. H., Santa Barbara, Calif.
Brewster, William, 145 Brattle St., Cambridge, Mass.
Bruen, Frank, 65 Prospect St., Bristol, Conn.
Buck, H. R., 38 Pearl St., Hartford, Conn.
Burns, Frank L., Berwyn, Pa.
Butler, Amos W., 52 State House, Indianapolis, Ind.

Chambers, W. Lee, Box 73, Los Angeles, Calif., R. D. No. 1.
Chase, Mrs. Agnes, 630 Elliot St. N. E., Washington, D. C.
Coale, Henry K., Highland Park, Ill.
Coffin, Percival Brooks, 3232 Groveland Ave., Chicago, Ill.
Crosby, Maunsell S., Graemere Rhinebeck, N. Y.
Chapman, Frank M., Am. Mus. Nat. Hist., New York City.
Davenport, Mrs. Elizabeth, Lindenhurst, Brattleboro, Vt.
Daggett, Frank S., 109 South Elmwood Ave., Oak Park, Ill.
Dawson, Rev. W. Leon, Los Angeles, Calif.
Deane, Ruthven, 135 Adams St., Chicago, Ill.
Deane, Walter, 29 Brewster St., Cambridge, Mass.
Dearborn, Dr. Ned, Linden, Md.
Dreuth, William, 1845 Oakdale Ave., Chicago, Ill.
Durfee, Owen, Box 125, Fall River, Mass.
Dutcher, William, 990 Central Ave., Plainfield, N. J.
Dwight, Dr. J., Jr., 134 West 71st St., New York, N. Y.
Eifrig, Prof. C. W. Gustave, Addison, Du Page Co., Ill.
Ekblaw, W. Elmer, 505 E. Green St., Champaign, Ill.
Eldridge, Miss Elizabeth, Plainfield, Will Co., Ill.
Ells, George P., Norwalk, Conn.
Embody, George C., Butler College, Indianapolis, Ind.
Fisher, Prof. G. Clyde, Johns Hopkins Univ., Baltimore, Md.
Fisher, Miss E. W., 524 Walnut St., Philadelphia, Pa.
Fleming, James H., Toronto, Ontario.
Floyd, Joseph L., 302 Folwell Bldg., Canton, Ohio.
Fordyce, George L., 40 Lincoln Ave., Youngstown, Ohio.
Gano, Miss Laura, Earlham Place, Richmond, Ind.
Gault, Benj. T., Glen Ellyn, Ill.
Hall, F. H., Geneva, N. Y.
Henderson, Hon. Junius, Boulder, Colo.
Henninger, Rev. Walter F., New Bremen, Ohio.
Hess, Isaac E., Philo, Ill.
Hix, George E., 114 W. 90th St., New York, N. Y.
Hine, Prof. J. S., O. S. U., Columbus, Ohio.
Hollister, Ned, U. S. N. Mus., Washington, D. C.
Holmes, Mrs. Georgiana K., Summit, N. J.
Hunt, Chriswell J., 2337 S. Paulina St., Chicago, Ill.
Jacobs, J. Warren, Waynesburg, Pa.
Jones, Prof. Lynds, Oberlin, Ohio.
King, Rev. J. W., 411 Dueper Ave, Canton, Ohio.
Keyes, Dr. Charles R., Mt. Vernon, Iowa.
McConnell, Harry B., Cadiz, Ohio.
McMillen, Wheeler, Ada, Ohio.
McKechnie, Frederick B., Ponkapog, Mass.

Mercur, J. Watts, Jr., Wallingford, Pa.
Metcalf, Zeno P., Dep't of Agric., Raleigh, N. C.
Mershon, W. B., Saginaw, Mich.
Miller, Richard, F., 3473 Amber St., Philadelphia, Pa.
Mitchell, Dr. Walton I., Barnes Bldg., Wichita, Kans.
Morris, C. H., McConnelsville, Ohio.
Oberholser, Harry C., 1445 Girard Ave. N. W., Washington, D. C.
Osgood, Prof. W. H., Dept. Zool., Field Museum, Chicago, Ill.
Pennock, C. J., Kennett Square, Pa.,
Pearson, Prof. T. Gilbert, Greensboro, N. C.
Richards, Chas. C., 6549 Minerva Ave., Chicago, Ill.
Peabody, Rev. P. B., Blue Rapids, Kan.
Rogers, Charles H., 5 W. 82d St. S. W., New York City.
Sage, John H., Portland, Conn.
Saunders, William E., 352 Clarence St., London, Ont.
Schantz, Orpheus M., 5215 W. 24th St., Cicero, Ill.
Sharples, Robert P., West Chester, Pa.
Shearer, Dr. A. R., Mont Belview, Chambers Co., Texas.
Sherman, Miss Althea, R. F. D. 2, McGregor, Iowa.
Showalter, Ben R., 164 Eagle St., Dayton, Ohio.
Skinner, H. H., 234 Mitchell Bldg., N. Yakama, Wash.
Sloanaker, J. L., Grinnell, Iowa.
Smith, Prof. Frank, Univ. of Ill., Urbana, Ill.
Smith, Jesse Lowe, Highland Park, Ill.
Swales, Bradshaw H., Grosse Ile, Mich.
Swarth, Harry S., Mus. Vert. Zool., Berkeley, Calif.
Taverner, P. A., 55 Elmhurst Ave., Highland Park, Mich.
Thayer, Hon. John E., Box 98, Lancaster, Mass.
Tinker, A. D., 631 S. 12th St., Ann Arbor, Mich.
Vickers, Ernest W., Ellsworth Station, Mahoning Co., Ohio.
Wallace, James S., 69 Front St., Toronto, Ont.
Wilde, Mark L. C., 311 N. 5th St., Camden, N. J.
Wilson, Burtis H., 1046 Seventeenth St., Rock Island, Ill.
Wilson, Sidney S., German Ave., Bank Bldg., St. Joseph Mo.
Wood, J. Claire, 179 17th St., Detroit, Mich.
Wood, Norman A., 1216 S. University Ave., Ann Arbor, Mich.

ASSOCIATE MEMBERS.

Bowditch, Harold, "Sunnyside," Jamaica Plain, Mass.
Carriger, H. W., 69 A Walter St., San Francisco, Calif.
Case, C. M., 7 Holcomb St., Hartford, Conn.
Chaney, Ralph W., 6044 Woodlawn Ave., Chicago, Ill.
Field, Irving, A., Westminster, Md.
Heilmann, Karl J., 4119 E. Market St., Tiffin, Ohio.
Keim, Dr. Thomas D., 405 Redcliffe St., Bristol, Pa.

Kuenning, Gustav A., First City Bank, New Bremen, Ohio.
Moline, Arthur W., 7622 Ingleside Ave., Chicago, Ill.
Schantz, Frank A., Berlin, Ontario, Can.
Schantz, Mrs. O. M., 5215 W. 24th St., Cicero, Ill.
Sparks, Miss Marion E., Urbana, Ill.
Shankland, F. N., Willoughby, Ohio.
Van Wagner, Millard, Salt Point, N. Y., R. F. D.
Vetter, Dr. Charles, 50 Central Part West, New York, N. Y.

DECEASED MEMBERS.

Ferry, John Farwell.
Holmes, La Rue Klingle.

ELECTION OF MEMBERS.

The following nominations for membership in the Wilson Club have been approved by the Executive Committee. Members will therefore confer a favor in notifying the Secretary at once if objections to any of these are offered. In the absence of objections, candidates are considered duly elected, according to our Constitution:

FOR ACTIVE MEMBERSHIP.

Abbott, G. Alan, 945 Marquette Bldg., Chicago, Ill.
Brown, W. J., 250 Oliver Ave., Westmount, Quebec, Can.
Cox, Prof. Ulysses O., Indiana State Normal School, Terre Haute, Ind.
Childs, John Lewis, Floral Park, N. Y.
Cooke, Prof. Wells W., 1450 Fairmount St., Wahsington, D. C.
Eastman, Francis B., Fort Benjamin Harrison, Ind.
Flanagan, John H., 392 Benefit St., Providence, R. I.
Fuertes, Louis Agassiz, Cornell Heights, Ithaca, N. Y.
Hathaway, Harry S., Box 1466, Providence, R. I.
Holmes, Fred W., Jerome Ave., Bristol, Conn., R. F. D.
Howell, Alfred B., 250 N. Orange Grove Ave., Pasadena, Calif.
Jessee, Dr. R. L., Philo, Ill.
Jackson, Thomas H., 304 N. Franklin St., West Chester, Pa.
Jones, Dr. Howard, Circleville, Ohio.
McAtee, Waldo Lee, Biological Survey, Wishington, D. C.
Mills, Prof. W. C., O. S. U., Columbus, Ohio.
Norris, Joseph Parker, Jr., care Evening Bulletin, Philadelphia, Pa.
Norris, Roy C., 725 N. Tenth St., Richmond, Ind.
Perry, Troup D., 116 32d St., Savannah, Georgia.
Perry, George P., Sterling, Ill.
Shufeldt, Dr. R. W., 3356 18th St., Washington, D. C.

Smith, Elbert E., Bristol, Conn., Edgewood, R. F. D.
Terrill, L. McI., 354 Elm Ave., West Mount, Quebec, Can.
Todd, W. E. Clyde, Carnegie Mus., Pittsburg, Pa.
Warren, Edward R., 20 W. Caramillo St., Colorado Springs, Colo.

FOR ASSOCIATE MEMBERSHIP.

Bagg, Egbert, Utica, N. Y.
Hickox, Wm. S., Middletown Springs, Vermont.
Philips, Prof. Jesse, Kennett Square, Pa.
Thomas Aubrey, Kennett Square, Pa.